





making, needs identification, resource identification and individual and collective action.

**A&S 498 PRINCIPLES AND PRACTICES OF SUPERVISION**

Supervision viewed from a human resources perspective, dealing with motivation, responsibility and successes at work as a means to intrinsic satisfaction.

**A&S 499 CLINICAL SUPERVISION**

Develops competencies in a system of person-to-person supervision that will give supervisors reasonable hope of accomplishing significant improvements in the personnel performance.

**A&S 586 ADMINISTRATIVE USES OF TECHNOLOGY IN EDUCATIONAL SETTINGS**

Students will develop and refine skills in word processing, record keeping, presentation software, budget management and educational management. They will also discuss the role of technology for classroom instruction, the expansion of a school's research capacity through technology and develop a framework for the evaluation of these uses of technology. (Open to both Masters and Doctoral students)

**A&S 590 ORGANIZATIONAL DEVELOPMENT**

A development approach used in combining theory, research, and applications for improving interpersonal effectiveness and to develop problem-solving capacity of the organization. The course is about change theory, people in organizations and the achievement of individual and organizational goals.

**A&S 591 RESEARCH SEMINAR IN EDUCATIONAL LEADERSHIP**

Research seminar in educational leadership

**A&S 593 PRACTICUM IN EDUCATIONAL LEADERSHIP (PREREQUISITE(S): CONSENT OF FACULTY ADVISOR)**

The practicum provides opportunities for advanced students in administration and supervision to participate in and complete a research project in selected systems on a full-time or part-time basis. The experiences are intended to provide, under professional direction and supervision for (1) study for major factions, policies, and problems for administration and supervision, and (2) intensive study of certain critical administrative and supervisory practices. PREREQUISITE(S): Advanced standing in administration and supervision and permission of faculty advisor.

**A&S 594 INTERNSHIP IN EDUCATIONAL LEADERSHIP (PREREQUISITE(S): CONSENT OF FACULTY ADVISOR)**

The internship provides supervised experiences in selected organizations on a full-time or part-time basis. The student intern is cooperatively assigned to an organization under the immediate supervision of organizational personnel. The experiences provided are designed to enrich the student's theoretical background with practical opportunities of participating in (1) overall contact with personnel and with the major functions and problems of certain critical administrative and/or supervisory activities, and (2) a detailed study and analysis of a particular administrative and/or supervisory function or activity. PREREQUISITE(S): Advanced standing in administration and supervision and permission of faculty advisor.

**A&S 595 WORKSHOP IN EDUCATIONAL LEADERSHIP (PREREQUISITE(S): CONSENT OF INSTRUCTOR)**

Topics of particular interest and concern to administrators and supervisors will be presented in a high-involvement seminar format. Primary reliance will be on written materials; however, audio-visual and role-playing mechanisms may also be used.

Participation in workshops is limited to advance students of administration and supervison. PREREQUISITE(S): Consent of instructor.

**A&S 596 HUMAN RESOURCE MANAGEMENT**

Theory, practice and relevant research in modern personnel administration. Recruitment, staff-development, interviewing, collective bargaining, conflict resolution and employee evaluation are emphasized. Human resource administration, induction programs, and in-service opportunities are touched upon.

**A&S 597 POLITICS OF EDUCATION**

Policy development in education as a political process; community power, state and national politics in educational decision-making and the role of leadership and pressure groups in the shaping of educational policy at local, state and national levels.

**A&S 598 INDEP STUDY IN EDU LEADERSHIP (PREREQUISITE(S): PERMISSION OF INSTRUCTOR, CHAIR & ASSOC DEAN)**

PREREQUISITE(S): Permission of instructor, program chair and associate dean.

**A&S 599 THESIS SEMINAR IN EDUCATIONAL LEADERSHIP (PREREQUISITE(S): SCG 410 & APPROVED THESIS PROPOSAL)**

A student writing a thesis registers for this course for four quarter hours of credit. When the thesis research and the writing of the thesis itself are prolonged beyond the usual time, the program advisor may require the student to register for additional credit. PREREQUISITE(S): SCG 410 and approved thesis proposal.

**A&S 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter.

**A&S 606 REVIEW OF LITERATURE**

This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching databases. In other words, student will need to be able to ask and answer such question as "What is know about? What are major issues and themes?"

**A&S 607 INTEGRATIVE PAPER**

Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of a theory, or, conversely, developing/refining a theory based on investigations made in the field. In other words, as graduates encounter new theories and practices they will need to be able to investigate and evaluate them, asking and answering questions about "how theories work."

**A&S 640 LEGAL ASPECTS OF SPECIAL EDUCATION FOR CLASSROOM TEACHERS**

Legal aspects of special education for classroom teachers

**A&S 645 THE ADMINISTRATION AND OPERATION OF SPECIAL EDUCATION**

The administration and operation of special education

**A&S 801 LEADERSHIP PRACTICES FOR URBAN ADMINISTRATORS**

This course examines existing administrative practices and analyzes their effects upon urban populations. In particular, it will consider the role of conflict, including its creative as well as its destructive potential, in inclusive decision making processes. A blend of experiential and theoretical approaches will be used to examine the urban leadership role in the restructuring of schools. This course will provide the necessary skills for school administrators to engage in curriculum assessment and development, site research, staff development, mentoring, and organizational change in the context of a multicultural educational environment through the consensus generated by community building.

**A&S 803 SCHOOL PROGRAMS, PLANT AND HUMAN RESOURCES**

The development of school programs, based on current research and school laws and regulations, will be explored. The focus will be on the core curriculum, Education and Secondary Education Act (ESEA), State Chapter I, Bilingual and Special Education mandates and opportunities as well as on other discretionary school programs. Responsibilities in relation to plant operation and management, staffing formulas for all staff, developing job descriptions, recruitment, and staff selection and evaluation are included.

**A&S 811 ASSESSMENT AND ACCOUNTABILITY**

Students will focus on defining responsibilities and selecting those processes and instruments, qualitative as well as quantitative, that best assess staff performance and provide direction for elevating student achievement.

**A&S 823 COMMUNITY AND CONSENSUS BUILDING FOR SCHOOL IMPROVEMENT**

Students will examine inclusive models for consensus building among school/community members that engage membership in processes and decision making through data collection, self-analysis, mission/vision development, goal setting and program planning, implementation and evaluation that leads to school and community improvement. Attention will be given to establishing linkages with local municipal, state, and federal resources, business and industrial resources, community services, and other community resources.

**A&S 833 DECISION MAKING AND PROBLEM SOLVING: EFFECTIVE PRACTICES FOR SCHOOLS**

Students will examine stages and models of decision making and their appropriate use in an educational context that lead to effective problem solving through collaboration, group dialogue and negotiations, mediation, and other intervention strategies for resolving diverse needs and conflicts. Students will work collaboratively to develop processes and strategies that can be used to resolve conflicts and reduce tensions, through group processes and communications techniques for improving the quality of decision making and professional relationships with school staff, central office administrators and school board members.

**A&S 843 THE POLITICS OF SCHOOLING**

Students will engage in analyzing educational policy and the political processes related to problem identification, problem solving, decision making, the underlying political processes and their impact on the school/community, students, parents, educators, staff, and community members. The role of such entities as, school boards, unions, professional associations, businesses, university preparation programs, book and test publishers, and local, state, and national policy makers in the education political arena

will be analyzed. Attention will be given to the means by which support for change is developed with special emphasis on collaborative dialogue and teamwork for political action. Strategies for coalition building, and individual and collective action will be informed by the use of theory from applied behavioral science and political science.

**A&S 853 CURRENT TRENDS IN BUDGETING, FINANCE AND SCHOOL LAW**

Current Trends in Budgeting, Finance and School Law. Financial decisions undergird instructional programs and administrative decision making. Relating these to available money and funding, setting priorities and maximizing the impact on student achievement will be studied. The duties and liabilities of school administrators as determined by federal rules and regulations, state school codes, the politics of boards of education, and case law will be examined.

**A&S 859 INDEPENDENT DISSERTATION RESEARCH: EDUCATIONAL LEADERSHIP**

**A&S 863 SCHOOL LAW FOR SUPERINTENDENTS**

**A&S 873 CURRENT TRENDS IN BUDGETING AND FINANCE**

This course focuses on the priorities of school funding. Financial decisions undergird instructional programs and administrative decision making. Relating these to available money and funding, setting priorities and maximizing the impact on student achievement will be studied.

**A&S 883 SCHOOL LAW**

This course examines the current legal requirements of schools and how changes impact schools. Administrators make decisions that respond to many realities, including the rules and regulations at the local, state, and national levels. The administrator works within a constantly changing system. The duties and liabilities of school administrators as determined by federal rules and regulations, state school codes, the policies of boards of education, and case law will be examined.

**A&S 899 SUPERINTENDENT INTERNSHIP (PREREQUISITE(S): ADVANCED STANDING)**

This course is an elective for those seeking the Illinois State Board of Education (ISBE) Superintendent Endorsement. It is to be taken in addition to all the required courses in the core, the concentration and the research sequence. The experiences provided are designed to enrich the students' theoretical background with practical opportunities to participate in major functions and critical duties at the district, regional and/or central office level. The student will be cooperatively assigned to site (s) and be supervised by the on-site superintendent and a DePaul faculty member. PREREQUISITE(S): Advances standing in the educational leadership program and possession of an ISBE Administrative endorsement (type 75 certificate).

**ACCOUNTANCY**

**ACC 500 FINANCIAL ACCOUNTING (PREREQ: GRADUATE STANDING)**

This introduction to financial accounting provides both a theoretical foundation and an opportunity to apply accounting logic in increasingly complex situations. The accounting model and information processing cycle are developed. The content of the income statement, balance sheet, and statement of cash flows are studied in detail and analyzed. PREREQUISITE(S): Graduate Standing

**ACC 502 ADVANCED MANAGEMENT ACCOUNTING (PREREQ: ACC 542)**

Interpretation, analysis and use by management of internal accounting information. Topics include cost management, activity-based costing, inventory management (including just-in-time), cost allocation, performance measurement, analysis and control of non-manufacturing costs, budgeting and financial planning, and capital budgeting. Students are familiarized with quantitative models and approaches used in management accounting. Computers will be used for problem-solving. (This course may not be taken by M.S.A. students) PREREQUISITE(S): ACC 542.

**ACC 503 ACCOUNTING INFORMATION SYSTEMS AND AUDITING (PREREQ: ACC 500)**

Accounting systems design and the audit process, and how they interact to aid management in controlling business operations. Emphasis is placed on the functions of the auditor including planning the audit, flowcharts, accounting systems, study and evaluation of internal accounting controls in EDP environment, statistical sampling and evidence gathering and reporting. Comparisons and contrasts between internal and external auditors are discussed at appropriate points. (This course may not be taken by M.S.A. students) PREREQUISITE(S): ACC 500.

**ACC 533 CORPORATE PLANNING (PREREQ: ACC 542 OR EQUIVALENT)**

This course investigates the conceptual framework for and the development of integrated corporate planning and control in business enterprises and not-for-profit organizations. Consideration will be given to long-range strategic planning, annual budgets, product and project planning. The course also conveys an understanding of the human elements and organizational constraints that may affect the corporate planning function. Students will be exposed to the use of quantitative techniques and microcomputers as planning tools. PREREQUISITE(S): ACC 542 or equivalent.

**ACC 535 ACCOUNTING SYSTEMS (CROSS-LISTED AS ACC 610) (PREREQ: ACC 555 OR EQUIVALENT))**

Today's business person requires a fundamental knowledge of computer-based information systems and their role in accounting functions and financial decision-making. This course will enable the student to interface with accounting systems, and to participate in their design and audit. It will focus on the nature and flows of accounting information in organizations, security and internal controls and the use of information technology in accounting information systems and decision-making. PREREQUISITE(S): ACC 555 or equivalent.

**ACC 541 FINANCIAL ACCOUNTING THEORY & PRACTICE I (PREREQ: ACC 500 OR EQUIVALENT)**

Intermediate theory and preparation of financial statements; review of accounting concepts and development of accounting models; methods and problems in valuation and reporting; with emphasis on current assets and liabilities, property, plant and equipment, and intangibles, review of relevant authoritative literature. PREREQUISITE: ACC 500 or equivalent.

**ACC 542 COST AND MANAGERIAL ACCOUNTING I (PREREQ: MIS 555 AND ACC 500 OR EQUIVALENT)**

Introduction to cost and managerial concepts and techniques. Topics include cost accumulation (job, process, standard costing, and activity-based costing), cost behavior, breakeven analysis, budgeting, contribution approach to income measurement, joint and by-product costing, cost allocation methods, and their relevance for decision-making. Selected spreadsheet applications will be introduced. PREREQUISITE: MIS 555 and ACC 500 or equivalent.

**ACC 543 FINANCIAL ACCOUNTING THEORY & PRACTICE II (PREREQ: ACC 541)**

Continuation of intermediate theory and financial statement preparation with emphasis on the components of stockholder's equity; special problems such as earnings per share, accounting changes, income taxes, derivatives, and statement of cash flows; review of relevant authoritative literature and interpretation of financial statements. PREREQUISITE (S): ACC 541 This is a M.S.A. course

**ACC 544 COST AND MANAGERIAL ACCOUNTING II (PREREQ: ACC 542 OR EQUIVALENT)**

This course presents topics in cost and managerial accounting. Topics include cost management techniques, activity-based costing, budgeting, responsibility accounting, decentralization and transfer pricing, quantitative decision models, operations management and inventory management (just-in-time). Computers will be used for problem-solving. PREREQUISITE (S): ACC 542 or equivalent. NOTE: This is a M.S.A. course.

**ACC 545 ADVANCED TOPICS IN ACCOUNTING THEORY (PREREQ: ACC 543)**

This course is designed to provide comprehensive coverage of the following: consolidations, partnership accounting, foreign operations and not-for-profit accounting. Coverage of the topics emphasizes both theory and practice. Mastery of the material is obtained through problem-solving situations. PREREQUISITE (S): ACC 543. NOTE: This is a M.S.A. or M.ACC course.

**ACC 547 AUDIT AND REGULATION OF CORPORATE FINANCIAL REPORTING (PREREQ: ACC 541)**

This course covers the theory of the auditing function. Topics covered include generally accepted auditing standards; the profession's ethical and legal dimensions; audit planning; the internal control structure; audit evidence; and auditor's reports. The development of the professional judgment needed to apply generally accepted auditing standards is emphasized. PREREQUISITE: ACC 541. NOTE: This is a M.S.A. course.

**ACC 548 TAX TREATMENT OF INDIVIDUALS AND PROPERTY TRANSACTIONS (ACC 500 OR EQUIVALENT)**

This course provides detailed coverage of the federal income tax treatment of individual taxpayers. It includes coverage of inclusions, exclusions, deductions, credits, rates of taxation, special tax computations and the tax aspects of property transactions. This course is a prerequisite for students in the M.S.T. program not having the equivalent undergraduate coursework in taxation. (A student may not receive credit for this course if he or she will also receive credit for Accountancy 584.) PREREQUISITE (S): ACC 500 or equivalent. Note: This is a M.S.A. or M.ACC course.

**ACC 550 ADVANCED TOPICS IN AUDITING (CROSS-LISTED AS ACC 620) (PREREQ: ACC 547)**

This course covers the implementation of generally accepted auditing standards, to the audit of transaction cycles, auditing sampling and the audit of computer-based systems. The course also includes a review of recent statements on auditing standards. PREREQUISITE: ACC 547. NOTE: This is a M.S.A. course.

**ACC 551 TAX TREATMENT OF CORPORATIONS AND PARTNERSHIPS (PREREQ: ACC 548 OR EQUIVALENT)**

This course covers the federal income tax treatment of corporations and partnerships. It includes an exposure to estate and gift taxation and tax research. This course is a prerequisite for students in the M.S.T. program not having the equivalent undergraduate coursework in taxation. (A student may not receive credit for this

course if he or she will also receive credit for Accountancy 584.) PREREQUISITE: ACC 548 or its equivalent. NOTE: This is a M.S.A. or M.ACC course.

**ACC 552 LEGAL AND ETHICAL ENVIRONMENT OF ACCOUNTING PRACTICE (PREREQ: GRADUATE STANDING)**

This course covers the aspects of the legal environment of special concern to accounting practitioners, including: the ethical standards of auditing and tax practice; legal liability of accountants; contract law; property law, commercial paper; the laws of agency; sales laws and public regulation and disclosure laws. PREREQUISITE: Graduate standing. Note: This course is a M.S.A. course.

**ACC 555 MANAGEMENT ACCOUNTING FOR DECISION-MAKING (PREREQ: MGT 500, ACC 500 OR EQUIVALENT)**

This course addresses the financial, nonfinancial & ethical dimensions of decision-making. It provides students with a conceptual understanding of cost management and managerial accounting skills. Topics include cost behavior, cost-volume-profit analysis, cost systems, budgeting and control and decision-making. Emphasis is on the interpretation & use of accounting information rather than its creation & accumulation. PREREQUISITE(S): MGT 500, ACC 500 or equivalent.

**ACC 558 TAX RESEARCH (PREREQ: GRADUATE STANDING)**

Tax research methods are taught in the classroom. The course begins with a study of the history of the body of tax law. A 'walk through' technique is employed to give the student firsthand experience in the use of a tax research service. PREREQUISITE: Graduate standing.

**ACC 559 TOPICS IN INDIVIDUAL AND CORPORATE TAXATION (PREREQ: ACC 551 OR EQUIVALENT AND ACC 558)**

This course deals with a variety of topics which are important in tax practice, such as alternative minimum tax, passive losses, interest limitations, the at-risk rules, hobby losses, use of a home, net operating losses. Depreciation and capital recovery including related credits, unearned income of a minor child, uniform capitalization rules and time value of money concepts. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 560 TAXATION OF CORPORATIONS AND SHAREHOLDERS (PREREQ: ACC 566)**

Emphasis is on the federal income taxation of distributions to corporate shareholders, including nonliquidating distributions and distributions in connection with liquidations. Collapsible corporations and the tax consequences of transfers of property to a corporation are also covered. PREREQUISITE (S): ACC 566. NOTE: This is a M.S.T. course.

**ACC 561 CORPORATE REORGANIZATIONS (PREREQ(S): ACC 558 AND ACC 560)**

Federal income tax implications of transfers of stock, securities and property in connection with corporate acquisitions, combinations and separations. This course is mainly concerned with the tax consequences to corporate parties, to reorganizations and to their shareholders. Emphasis is given to determining the taxability of transactions and asserting the availability of tax attributes to successors in interest. PREREQUISITE (S): ACC 558 and ACC 560. NOTE: This is a M.S.T. course.

**ACC 562 CONSOLIDATED RETURNS (PREREQ(S): ACC 560 AND ACC 561)**

This course deals with the principles and mechanics of tax consolidations including eligibility, intercompany transactions, inventory adjustments, basis of property, net operating losses, earnings and profits and separate return limitations. .  
PREREQUISITE (S): ACC 560 and ACC 561. NOTE: This is a M.S.T. course.

**ACC 563 PARTNERSHIPS ( PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

An in-depth analysis of the federal income tax rules governing partners and partnerships. This course includes study of the aggregate and entity theories, partnership distributions and liquidations, dispositions of partnership interests, transactions concerning unrealized receivables and substantially appreciated inventory items and special basis adjustments. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S. T. course.

**ACC 564 TRANSACTIONS IN PROPERTY ( PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558T)**

This course is concerned mainly with the federal income tax implications of gains and losses derived from sales and other dispositions of property. Emphasis will be given to the determination and recognition of gain or loss, character of gain or loss (capital or ordinary), basis and holding period. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 565 TAX ACCOUNTING, PERIODS, AND METHODS (PREREQ: ACC 551 OR EQUIVALENT AND ACC 558)**

This course deals with federal income tax planning as to determination of the proper periods for reporting income and deductions, overall methods of tax accounting and special elections available to taxpayers. Topics include the installment method, accounting method changes, accrual method, cash method, FIFO, LIFO and accounting periods. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 566 FEDERAL INCOME TAX PROCEDURES (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

A study of the procedures which must be followed when dealing with the Internal Revenue Service and possible alternative courses of action. Included are such topics as the organization of the Internal Revenue Service, filing requirements, refund claims, closing agreements, examination procedures, protests, assessment, payment and collection of tax, statute of limitations, interest and penalties. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 567 INTERNATIONAL ASPECTS OF U.S. TAXATION (PREREQ: ACC 551 OR EQUIVALENT AND ACC 558)**

This course covers the federal income taxation of United States persons investing or doing business outside the United States and nonresident aliens and foreign corporations having nexus with the United States. Topics covered include, among others, the foreign tax credit, Subpart F income, controlled foreign corporations, sourcing rules and expatriate taxation. PREREQUISITE: ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 568 TAXATION OF CLOSELY HELD CORPORATIONS ( PREREQ(S): ACC 560 AND ACC 561)**

This course deals with federal income tax planning in connection with the accumulated earnings tax, personal holding companies, S corporations, multiple corporations, transactions between related parties and small business corporation stock. PREREQUISITE (S): ACC 560 and ACC 561. NOTE: This is a M.S.T. course.

**ACC 569 CONCEPTS OF DEFERRED COMPENSATION (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

The nature, purpose and operation of the various forms of deferred compensation are examined and evaluated: employee pension; profit sharing and stock bonus plans, stock options; executive compensation plans; retirement plans for self-employed individuals; other plans. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 570 STATE AND LOCAL INCOME AND FRANCHISE TAXATION (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

This course identifies and examines the types of income and capital stock taxes imposed on corporations and pass-through entities by state governments. Topics include nexus and the impact of P.L. 86-272, conformity to the Internal Revenue Code, business and nonbusiness income, methods of reporting, and allocation and apportionment. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 571 ESTATE AND GIFT TAXATION (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

This course consists of a detailed review of the federal estate and gift tax laws. In the area of estate taxation, assets included and deductions allowed are reviewed in detail by reference to law, regulations and cases. Recognition of gifts and gift tax deductions and exclusions are also covered. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 572 CONCEPTS OF STATE PROPERTY AND TRANSACTION TAXATION (PREREQ(S): ACC 551 OR EQUIVALENT AND ACC 558)**

This course focuses on concepts of property and sales taxation, but will survey other state and local transaction taxes, including excise taxes, utility taxes, fuel taxes and escheat statutes. Property tax concepts include distinctions between real and personal property and valuation approaches. PREREQUISITE (S): ACC 551 or equivalent and ACC 558. NOTE: This is a M.S.T. course.

**ACC 573 INCOME TAXATION OF ESTATES, TRUSTS, AND DECEDENTS (PREREQ: ACC 551 OR EQUIV, ACC 558 & ACC 571)**

This course deals with federal income taxation of estates, trusts and decedents with special emphasis on such concepts as income in respect of a decedent and estate and trust distributions. Also, included are such topics as the income and deductions included in the decedent's final return, death of a partnership member, the income and deductions of estate and trusts, the throwback rule, grantor trusts and the tax ramifications of the use of other special trusts. PREREQUISITE (S): ACC 551 or equivalent, ACC 558 and ACC 571. NOTE: This is a M.S.T. course.

**ACC 574 ESTATE PLANNING (PREREQ: ACC 571)**

This course will deal primarily with how to avoid and minimize federal estate taxes and estate administration expenses upon the subsequent demise of the client. Therefore, the student must have taken the estate and gift taxation, the use of outright gifts, the use of trusts. Generation skipping transfers and charitable gifts will also be considered. PREREQUISITE: ACC 571. NOTE: This is a M.S.T. course..

**ACC 576 FEDERAL TAX VALUATION**

Fair market value is referenced hundreds of times in the Internal Revenue Code, and many more times in the Regulations. In the initial part of this course the procedures and methods applicable to tax valuation are reviewed to heighten practitioner

awareness of the range of potential valuation outcomes, and the reasons therefore. Tax cases are used extensively to achieve this objective. In the second part of the course presentations and discussions address more specific topics such as built-in gains, determination of carryover of net operating losses, valuation aspects of charitable giving, conservation easements, ESOPs, family limited partnerships, reasonable compensation. S-corporations, special use properties, and transfer pricing.

**ACC 577 TAXATION OF FINANCIAL PRODUCTS & MKT PARTICIPANTS (PREREQ: ACC 551, ACC 558 & ACC 564 OR EQUIV)**

This course provides an in-depth analysis of the taxation of various financial products and market participants. Topics include the taxation of Section 1256 contracts; hedging transactions; foreign currency transactions and Section 988; information reporting requirements; joint venture, partnership and corporate considerations; treatment of dealers, traders and investors; and the impact of the passive activity rules and related provisions on market participants. PREREQUISITE(S): ACC 551, ACC 558 and ACC 564 or equivalent. NOTE: This is a M.S.T. course

**ACC 581 TAXATION OF REAL ESTATE (PREREQ: ACC 563 OR EQUIVALENT)**

An in-depth study of federal income taxation as it relates to real estate, including current issues and planning possibilities. Topics include consequences of acquisition and disposition, real estate development, leasing, mortgages and other financing devices and forms of ownership of real estate. PREREQUISITE: ACC 563 or equivalent. NOTE: This is a M.S.T. course.

**ACC 582 ADVANCED CONCEPTS IN INTERNATIONAL TAXATION (PREREQ: ACC 567 OR EQUIVALENT)**

This advanced course is a companion offering to the introductory international taxation course (Accountancy 567). In this course, planning issues and tax savings opportunities are emphasized in complex areas, including source of income considerations, foreign tax credit matters, Subpart F issues and the tax matters of foreign corporations. In addition, tax treaty matters, international bribes and boycott sanctions and foreign currency translation issues are addressed. PREREQUISITE: ACC 567 or equivalent. NOTE: This is a M.S.T. course.

**ACC 584 INCOME TAX AND BUSINESS DECISIONS (PREREQ: ACC 500)**

The study of the impact of federal income taxation on business decisions with emphasis on such areas as choice of business organization, executive compensation & property transactions. This course is intended for students in the M.B.A. program and restricted to those who have not had undergraduate or graduate credit for ACC 548 or ACC 551 or their equivalents. (MSA students may not take this class.) PREREQUISITE(S): ACC 500.

**ACC 586 THE ROLE OF THE CHIEF FINANCIAL EXECUTIVE (PREREQ: GRADUATE STANDING)**

Recent years have seen remarkable expansion of the financial executive's role in almost all organizations. No longer is this person's job essentially that of a chief account. Today the chief financial executive is deeply involved in the strategic aspects of management and is constantly called upon for data, analysis and advice by all levels of management. This course is therefore designed to assist students in understanding and preparing for this role as well as the roles of the treasurer and controller. Class presentations will be based on current or prior experience. PREREQUISITE (S): Graduate standing.

**ACC 587 ANALYSIS OF CONTEMPORARY ACCOUNTING PRACTICES (PREREQ: ACC 500)**

What new and creative accounting techniques are popular? What should analysts know about these techniques? How do managers make accounting choices? How do investors and creditors tend to react to these choices? Which accounting measures are the more vulnerable or risky? How do recent U.S. and international pronouncements deal with evolving accounting topics? Class presentations and discussions address these, and similar, questions. Students are encouraged to suggest topics relevant to their own current experience. Published research is emphasized. The course begins with a review of the essential financial and business valuation concepts necessary to negotiate the literature. Limited time is spent describing efficient library research skills. No time is spent on the particulars of preparing financial statements.  
PREREQUISITE(S): ACC 500.

**ACC 591 TAX EXEMPT ORGANIZATIONS (PREREQ: ACC 551 OR EQUIVALENT AND ACC 558)**

Tax treatment of public charities and private foundations. The way exempt status is secured and retained, qualified exemptions, unrelated business income, the loss of exemption, prohibited transactions, deductibility of contributions and required reporting and auditing. PREREQUISITE(S): ACC 551 or equivalent and ACC 558.

**ACC 598 SEMINAR ON CURRENT PROBLEMS IN TAXATION (PREREQ: ACC 558, ACC 560, ACC 561, ACC 565 & ACC 566)**

Covers recent significant developments in the future of legislation, regulations, administrative rulings and case law on federal income, estate and gift taxation. Emphasis is placed on specific tax planning in light of these current developments. Topics are discussed against background of leading Supreme Court cases. Recommended as final tax course in M.S.T. program. Required course for all candidates for Master of Science in Taxation degree. PREREQUISITE(S): ACC 558, ACC 560, ACC 561, ACC 565 & ACC 566. NOTE: This is a M.S.T. course.

**ACC 599 GRADUATE SEMINAR IN MANAGEMENT ACCOUNTING (PREREQ: ACC 502 OR EQUIVALENT)**

Capstone seminar for M.B.A. students with a concentration in Management Accounting. Attention is directed to the current developments in Management Accounting. Students learn to exercise judgement in the solution of accounting-related problems by drawing upon their integrated and comprehensive body of accounting and related knowledge. This seminar involves extensive reading and research in the literature of management accounting and related disciplines. PREREQUISITE: ACC 502 or equivalent.

**ACC 610 ACCOUNTING INFORMATION SYSTEMS (CROSS-LISTED AS ACC 535) (PREREQ: ACC 555 OR EQUIVALENT)**

Today's businessperson requires a fundamental knowledge of computer-based information systems and their role in accounting functions and financial decision-making. This course will enable the student to interface with accounting systems and to participate in their design and audit. It will focus on the nature and flows of accounting information in organizations, security, internal controls, the use of information technology in accounting information systems and decision-making. PREREQUISITE(S): ACC 555 or equivalent. NOTE: This is a M.S.A. or a M.ACC course.

**ACC 620 ADVANCED AUDITING THEORY (CROSS-LISTED AS ACC 550) (PREREQ: ACC 372 OR ACC 547 OR EQUIVALENT)**

Advanced study of auditing that includes the implementation of generally accepted auditing standards, the audit of computer-based systems and the application of statistical methods in auditing. Coverage of the concepts and literature will include the study and evaluation of internal control in computer-based systems, the application of statistical methods to tests of controls and balances, and the use of computerized

software packages in the audit process. An intensive review of current authoritative literature in auditing is also provided. PREREQUISITE (S):ACC 372 or ACC 547 or equivalent. . NOTE: This is a M.ACC course instead of MSA.

**ACC 630 BUDGETING, FINANCIAL PLANNING & CONTROL (PREREQ: ACC 542 OR EQUIVALENT)**

The study of quantitative, organizational behavioral aspects of budgeting for management planning and control. Topics include strategic planning, long-range planning, budgeting, cost analysis, capital budgeting, transfer pricing and divisional performance measurement. Exposure given to special applications in nonprofit organizations. Emphasis is placed on the use of accounting information for effective planning and control. (Enrollment is limited to students in the M.Acc, or P.M.S.A. programs or permission of instructor.) PREREQUISITE (S):ACC 542 or equivalent. . NOTE: This is a M.S.A. course

**ACC 640 ACCOUNTING THEORY AND POLICY FORMULATION (PREREQ: ACC 544, 545, 550 & 557 OR EQUIVALENT)**

A study of the process by which accounting policies are formulated. The students are asked to make critical evaluations of basic issues such as income determination and current issues such as FASB agenda items in light of their theoretical, empirical, practical and political aspects. Students are expected to demonstrate an ability to use the accounting research literature. Students should plan to take this capstone course at the end of their degree program. (Enrollment is limited to students in the M.Acc or M.S.A. programs.) PREREQUISITE (S): ACC 544, 545, and 550 or equivalent. . NOTE: This is a M.S.A. and a M.ACC course.

**ACC 690 GRADUATE INTERNSHIP (PREREQUISITE: PERMISSION)**

Technical knowledge acquired in the classroom is applied in an actual business environment through varied assignments under supervision in industry, government or public accounting. Offered variably. PREREQUISITE (S): Permission.

**ACC 798 SPECIAL TOPICS (PREREQ: AS INDICATED IN CLASS SCHEDULE)**

Content and format of this course are variable. An in-depth study of current issues in accountancy. Subject matter will be indicated in class schedule. Offered variably. PREREQUISITE (S): As indicated in the class schedule.

**ACC 799 INDEPENDENT STUDY (PREREQ: WRITTEN PERMISSION)**

Available for graduate students of demonstrated capability for intensive independent work in accountancy. PREREQUISITE: Written permission

**APPLIED BRASS**

**APB 410 BARITONE HORN**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 430 FRENCH HORN**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 465 TROMBONE**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 467 JAZZ TROMBONE**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 470 TRUMPET**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 472 JAZZ TRUMPET**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APB 475 TUBA**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APPLIED KEYBOARD**

**APK 440 ORGAN**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APK 450 PIANO**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APK 452 JAZZ PIANO**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

## **APPLIED MUSIC**

### **APM 405 GRADUATE RECITAL**

A full 60 minute, public recital performance of solo and/or chamber repertoire to be completed during the graduate residence. This recital is required as partial fulfillment of the degree of Master of Music in Performance and for the post-Masters Certificate in Performance. COREQUISITE: Students must be registered for a total of 4 credits of applied lessons during the quarter the recital is presented.

### **APM 415 ITALIAN DICTION/LANGUAGE LAB FOR GRADUATE STUDENTS**

This course is offered in conjunction with the first year of graduate vocal study. It focuses on the translation, pronunciation, grammatical understanding, and interpretation of Italian texts.

### **APM 416 GERMAN DICTION/LANGUAGE LAB FOR GRADUATE STUDENTS**

This course is offered in conjunction with the first year of graduate vocal study. It focuses on the translation, pronunciation, grammatical understanding, and interpretation of German texts.

### **APM 417 FRENCH DICTION/LANGUAGE LAB FOR GRADUATE STUDENTS**

This course is offered in conjunction with the first year of graduate vocal study. It focuses on the translation, pronunciation, grammatical understanding, and interpretation of French texts.

### **APM 420 REVEALING THE ACTORSINGER WITHIN**

A graduate course designed to stimulate and uncover the imagination, instinct, and vulnerability of the ActorSinger. The student will discover and integrate the tools toward becoming an expressive and passionate communicator and story-teller.

### **APM 426 HISTORY AND LITERATURE OF WOODWINDS**

### **APM 428 WOODWIND ORCHESTRAL REPERTOIRE**

(3 credits)

### **APM 431 THE ART OF THE PIANO**

The course is designed to introduce the art of piano playing as a part of broader spectrum of the world culture, and to guide the graduate students in their search for the true mastery, where playing the instrument is identified as an artistic expression of spiritual freedom, and technical prowess is seen as a step to meaningful communication.

### **APM 442 ACCOMPANYING CLASS**

(2 credits) Role of pianist as accompanist.

### **APM 443 CHAMBER MUSIC WORKSHOP**

### **APM 446 PERCUSSION PEDAGOGY**

(3 credits)

### **APM 447 ORCHESTRAL REPERTOIRE: PERCUSSION**

Study of standard orchestral repertoire.

**APM 451 PIANO PEDAGOGY**  
(3 credits) Offered Fall Quarter only.

**APM 453 ADVANCED TECHNIQUES OF THE MUSIC STAGE**  
(2 credits)

**APM 471 BRASS CONCEPTS**  
(3 credits)

**APM 486 STRING PEDAGOGY**  
(2 credits) Concepts and philosophies, teaching beginners to advancing students, and coaching chamber music.

**APM 487 ADVANCED VOCAL DICTION**  
(2 credits) Advanced study in Italian, French and German diction, phrasing and text translation.

**APM 496 VOICE PEDAGOGY**  
(2 credits) Course is designed to enhance APM 336.

**APM 497 SEMINAR**  
(2 credits) A seminar for performance majors and others, in which emphasis is placed on performance practices, program building and other areas connected with a performing career.

**APM 498 INDEPENDENT STUDY**

## **APPLIED PERCUSSION**

**APP 400 PERCUSSION**  
(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APP 401 JAZZ PERCUSSION**  
Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

## **APPLIED STRINGS**

**APS 427 GUITAR**  
(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 429 JAZZ GUITAR**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 437 HARP**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 460 STRING BASS**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 462 JAZZ STRING BASS**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 480 VIOLA**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 485 VIOLIN**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APS 490 VIOLONCELLO**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APPLIED VOICE**

**APV 400 VOICE-STUDIO**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APV 401 JAZZ VOICE**

**APPLIED WOODWINDS**

**APW 415 BASSOON**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 420 CLARINET**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 425 FLUTE**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 435 OBOE**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 455 SAXOPHONE**

(2 or 4 credits) Open only to music students. Music Students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**APW 457 JAZZ SAXOPHONE**

Open only to School of Music students. Music students may not enroll in applied lessons in excess of 4 quarter hours per quarter. All applied lessons are repeatable courses.

**ART AND ART HISTORY**

**ART 400 CHICAGO: ARCHITECTURE AND URBANISM**

Chicago: Architecture And Urbanism

**ART 401 GRADUATE TOPICS IN ART HISTORY (PREREQ.: GRADUATE STDG OR CONSENT)**

Graduate level, intensively researched investigations into topics from the history of Western and Non-Western artforms taught by an instructor with a research specialty in that topic. PREREQUISTE(S): Graduate standing or consent of the instructor.

**ART 405 ADVANCED COLOR DESIGN (PREREQ(S): ART 105)**

Advanced Color Design PREREQUISTE(S): ART 105

**ART 427 COMPUTER GRAPHICS (PREREQ(S): ART 101 AND 105)**

Computer Graphics PREREQUISTE(S): ART 101 and 105.

**ART 460 ART AND DESIGN I: HISTORY, CONCEPT AND CULTURE (PREREQ(S): ART 101 AND 105)**

Graphic Design I PREREQUISTE(S): ART 101 and 105.

**ART 461 ART AND DESIGN II: WORD AND IMAGE**

Graphic Design II

**ART 461 ART AND DESIGN II: WORD AND IMAGE**

Graphic Design II

**ART 490 GRADUATE TOPICS IN STUDIO (PREREQ.: GRADUATE STDG OR CONSENT)**

Intensive studio experience in the student's media of choice. PREREQUISTE(S): Graduate standing or consent of instructor.

**ART 495 ADVANCED TOPICS IN ART HISTORY (PREREQ(S): GRADUATE STDG OR CONSENT)**

Advanced Topics In Art History PREREQUISTE(S): Graduate standing or consent of the instructor.

## **BILINGUAL-BICULTURAL EDUCATION**

**BBE 402 BILINGUAL-BICULTURAL CURRICULUM DEVELOPMENT**

(4 credits) Reviews theory and application of curriculum development to bilingual instructional programs, such as design, organizational patterns, materials and media, teacher training, parent and community involvement, and evaluation. Principal bilingual education program models are examined and analyzed. Includes a review of multiethnic literature and literacy that advocates for students' self-concept, acceptance, and sense of identity (includes 10 clinical hour requirement).

**BBE 404 LANGUAGE, LITERACY AND CULTURE**

(4 credits, formerly LSI 404) Examines the interdisciplinary study of language and literacy in their cultural, social, and political contexts, with emphasis on linguistically diverse communities and the implications for human developmental processes. Explores the social and political conditions that endorse different language and literacy practices and doctrines and create anti-bilingual education ideologies in the U.S. Topics include language and literacy and ethnicity, identity, social class, and gender, among other related topics.

**BBE 406 SOCIOCULTURAL AND HISTORICAL PERSPECTIVES IN BILINGUAL EDUCATION**

(4 credits, formerly LSI 406) Presents theoretical constructs of bilingual schooling in the U.S. and other multilingual societies from historical, theoretical and sociocultural perspectives. Emphasizes issues in bilingual education related to the sociocultural and legal aspects of language policy and bilingual education in the U.S. The historical trajectory of language policy and bilingual education in the U.S. is discussed in reference to Native American languages and early European settlers' language schooling practices. The focus shifts to 20th and 21st century bilingual education and immigration policies that have influenced both the advocacy for and opposition to bilingual education as well as the movement to make English the official language in the U.S.

**BBE 407 EQUITY ISSUES IN ASSESSMENT**

(4 credits, formerly LSI 407) Examines assessment procedures, including standardized and performance-based, as well as ethical standards and practices used in the assessment of culturally and linguistically diverse students. Equity and legal issues related to assessment practices, research, first and second language acquisition, bilingualism, cultural and sociopolitical issues related to assessment are discussed. Emphasizes existing biases in assessment and non-discriminatory assessment practices and policies. National, state, and local assessment policies are examined (includes 10 clinical hour requirement).

**BBE 425 BILITERACY PRACTICES IN BILINGUAL EDUCATION AND ESL**

(4 credits, formerly LSI 425) Analyzes and evaluates methods and materials used in bilingual education and ESL programs. Stresses effective instructional strategies and best practices in first and second language literacy development and content learning. Reviews language teaching approaches and cooperative models of learning relating to development of reading and writing in the first and second language. Presents the acquiring language through content learning versus learning language programs. Investigates appropriate first language usage in bilingual classrooms, focusing on the different content areas, appropriate terminology for native language instruction, and the study of language distribution issues (includes 15 clinical hour requirement).

**BBE 466 FIRST AND SECOND LANGUAGE ACQUISITION**

(4 credits) Addresses the relationship between language development and use and social, emotional, cognitive, and physical development of children. Introduces the study of bilingualism by examining theoretical constructs and research in psycholinguistics, sociolinguistics, and applied linguistics. Includes an analysis of language contact phenomena, cross-linguistic transfer, language alteration, language shift and loss, and bilingualism (includes 10 clinical hour requirement).

**BBE 510 ADVANCED LANGUAGE SEMINAR**

This course is designed to explore a specific area of study in the field of linguistics, such as sociolinguistics, psycholinguistics, applied linguistics, language planning and policy, and cognitive bilingualism, among other related topics. The particular focus of study will vary and change as the course is offered.

**BBE 520 RESEARCH METHODS IN BILINGUAL & BICULTURAL STUDIES**

(4 credits) Introduces and develops research design for the study of linguistic, social, and psychological variables in bilingual, second language, and dialectically diverse populations; emphasis on designing and carrying out a research project related to bilingual education and/or second language acquisition issues. The Research Methods in Bilingual & Bicultural Studies course will focus on research issues in bilingual-bicultural education. It will provide students with opportunities to develop research questions, establish methods, review research literature, and begin field work for the writing of their Masters theses or M.Ed. papers. PREREQUISITE: SCG 410.

**BBE 524 METHODS OF TEACHING ESL**

(4 credits, formerly CS 524) Course examines the relationship of reading and writing development to second language acquisition in ESL contexts. Discusses various learning and teaching approaches that effectively extend English language learners' literacy and language skills. Explores the literacy progress of native and non-native speakers of English by examining the theoretical perspectives of language and literacy development (includes 15 clinical hour requirement).

**BBE 526 THEORETICAL FOUNDATIONS OF TEACHING ESL**

(4 credits, formerly CS 526) Presents an introduction to the field of English as a second language, with attention to basic concepts of second language acquisition in various language learning contexts. Discusses interdisciplinary perspectives of second language acquisition and their application to classroom practices. The different factors influencing the acquisition of English as a second language are examined as well as current research in applied linguistics and different approaches to language teaching.

**BBE 588 INDEPENDENT STUDY IN BILINGUAL BICULTURAL EDUCATION (PERMISSION REQUIRED)**

PREREQUISITE(S): Permission of instructor, program chair and associate dean.

**BBE 589 THESIS RESEARCH IN BILINGUAL-BICULTURAL EDUCATION**

(4 credits) A student writing a thesis registers for this course for four quarter hours of credit. When the thesis research and writing of the thesis are prolonged beyond the usual time, the program advisor may require the student to register for additional credit.

**BBE 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter. Non-Credit Course.

**BBE 606 REVIEW OF LITERATURE**

This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching data bases.

**BBE 607 INTEGRATIVE PAPER**

Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of a theory, or, conversely, developing/refining a theory based on investigations made in the field. In other words, as graduates encounter new theories and practices they will need to be able to investigate and evaluate them, asking and answering questions about "how theories work."

**BIOLOGICAL SCIENCES****BIO 400 DEVELOPMENT OF TOPICS FOR RESEARCH**

The purpose of this course is to help graduate students develop skills necessary to formulate research questions and design methods for their implementation. Students will, with the guidance of a faculty member, undertake a detailed investigation of a topic, formulate a potential research project in that area, and present their proposal orally to the faculty at the end of the quarter. Two quarter hours.

**BIO 401 INDEPENDENT STUDY**

Two or four quarter hours. Experimental and/or Library study of selected topics in the life sciences. A-Cell Biology, B-Immunobiology, C-Developmental Biology, D-Physiology,

E-Endocrinology, F-Genetics, G-Structural Biology, H-Ecology, I-Molecular Biology, J-Neurobiology. Offered in the Autumn, Winter, Spring and Summer quarters. Two or four quarter hours.

**BIO 405 BIOMETRY (LAB FEE) (CROSS-LISTED AS BIO 305)**

**BIO 409 PLANT PHYSIOLOGY (CROSS-LISTED AS BIO 309) (LAB FEE)**

Functional and developmental aspects of plants, especially of vascular autotrophs. Lecture-laboratory. Lab fee.

**BIO 415 TOPICS IN ECOLOGY (CROSS-LISTED AS BIO 315)**

The focus of this course is to read and critique classic papers in ecology and to connect their foundational ideas with modern research and understanding.

**BIO 416 PHYCOLOGY (CROSS-LISTED AS BIO 316) (LAB FEE)**

Introduction to algae with emphasis on taxonomy, morphology, ultrastructure, physiology, life histories of freshwater and marine species. Lecture-laboratory. Lab fee. PREREQUISTE(S):Graduate standing or consent of instructor.

**BIO 417 AQUATIC BIOLOGY (CROSS-LISTED AS BIO 317) (LAB FEE)**

The study of biological, physical and chemical phenomena in fresh water and marine environments. Emphasis on organisms and their interactions. Lecture-laboratory. Lab fee. PREREQUISTE(S):Graduate standing or consent of instructor.

**BIO 420 MICROBIAL ECOLOGY**

This course will explore key roles that microorganisms play in life on earth and how they are being used in biotechnology. This is a lab course, which will enable students to study processes used in the enrichment, isolation, and identification of microorganisms from various environments.

**BIO 425 CELLULAR EVENTS IN THE IMMUNE RESPONSE**

Analysis of cellular and subcellular interactions in the immune response. Lecture, seminar, discussion. PREREQUISTE(S):Completion of Immunobiology course or its equivalent.

**BIO 430 DEVELOPMENTAL BIOLOGY**

A survey of developmental phenomena in animals from fertilization to sexual maturity. Topics include gametogenesis, early cell divisions, organ formation, metamorphosis, regeneration, birth defects, stem cells, reproductive technology and mammalian cloning. Lecture-laboratory. Lab Fee. PREREQUISITES: Bio 250 AND Bio 260 or consent of instructor.

**BIO 431 TOPICS IN DEVELOPMENTAL BIOLOGY (CROSS-LISTED AS BIO 331)**

This seminar course examines the current embryological literature using both evolutionary and molecular perspectives. Previous student-led topics include: how early embryos are organized, the signals controlling left-right asymmetry, the evolutionary origin of feathers and the development of the retina. PREREQUISTE(S):BIO 330 or BIO 360 or consent of instructor.

**BIO 433 MYCOLOGY (CROSS-LISTED AS BIO 333)**

This course provides an opportunity for students to integrate their knowledge of cell biology, genetics, ecology and physiology at the organismal level by focusing on fungi. Students will gain an appreciation of the biological diversity within the major groups of fungi and their role in the environment, research and biotechnology. Lecture-laboratory. Lab fee.

**BIO 435 CONCEPTS IN EVOLUTION (CROSS-LISTED AS BIO 335)**

Study of evolution and diversity in the living world. Lecture only.

**BIO 439 CELLULAR NEUROBIOLOGY (CROSS-LISTED AS BIO 339)**

A study of the cellular and molecular mechanisms of the nervous system and the role they play in neural signaling and neural development. PREREQUISITE(S): Graduate standing or consent of the instructor.

**BIO 440 SYSTEMS NEUROBIOLOGY (CROSS-LISTED AS BIO 340)**

An examination of the ways in which neural systems underpin behavior with an emphasis on vertebrates. In this course, behavior is understood in its broadest sense, from the functioning of organs and organ systems to the activities of whole organisms. Lecture-Laboratory. Lab Fee. PREREQUISITE(S): Graduate standing or consent of instructor.

**BIO 441 TOPICS IN NEUROBIOLOGY**

A seminar course examining current topics in neurobiology. Original readings will include both current review and classic articles in the fields of neurobiology, neuroethology and the related neurosciences. PREREQUISITE(S): BIO 439 or BIO 440.

**BIO 445 TOPICS IN PALEOBIOLOGY (CROSS-LISTED AS BIO 345)**

A seminar course examining various topics in paleobiology (the study of ancient life) including morphological concepts, macroevolutionary processes, extinction events, phylogenetic systematics, paleoecology, paleobiogeography, and the adequacy of the fossil record. Readings include classic and recent articles in the fields of paleobiology.

**BIO 447 TOPICS IN MEDICAL BACTERIOLOGY**

This course will address current topics of concern and research in medical bacteriology. Students participating in this course will explore key concepts used in bacterial pathogenesis and learn how to critically appraise recent research papers in the field. Prerequisite: Completion of BIO 210 or equivalent.

**BIO 448 THE BIOLOGY OF INFECTION**

This course will provide students with detailed knowledge of medically important bacteria. The course will first examine common events in infections and the body's responses to infection. We will highlight in these studies the changes in both hosts and pathogens as strategies of infection and immunity evolve relative to one another. Within this framework we will examine a spectrum of infectious diseases in detail. PREREQUISITES: BIO 210 (Microbiology), BIO 250 (Cell Biology), and BIO 370 (Immunobiology)

**BIO 450 PROBLEMS IN CELL MOTILITY**

Analysis of contemporary problems in cellular movements, with emphasis on the biochemistry, biophysics and regulation of cell and organelle movements. Lecture, seminar, discussion.

**BIO 452 ADVANCED COMPARATIVE PHYSIOLOGY (CROSS-LISTED AS BIO 352)**

Comparative and environmental approach to the function and mechanisms of vertebrate organ systems. Selected topics in comparative physiology will be addressed using a lecture/discussion/seminar format.

**BIO 460 MOLECULAR BIOLOGY (CROSS-LISTED AS BIO 360) (LAB FEE)**

Study of biology at the molecular level, focusing on the regulation of gene expression and the principles of genetic engineering. Lecture-laboratory. Lab fee.

**BIO 460 MOLECULAR BIOLOGY (CROSS-LISTED AS BIO 360) (LAB FEE)**

Study of biology at the molecular level, focusing on the regulation of gene expression and the principles of genetic engineering. Lecture-laboratory. Lab fee.

**BIO 461 TOPICS IN MOLECULAR BIOLOGY (CROSS-LISTED AS BIO 361)**

Discussion and seminars in selected areas of molecular biology.

**BIO 468 DEVELOPMENTAL TOXICOLOGY (CROSS-LISTED AS BIO 368)**

The toxic effects of drugs and chemicals, especially on the developing mammalian organism including the human. Laboratory project in experimental induction of birth defects. Lecture-laboratory. Lab fee. Cross-listed as BIO 368

**BIO 471 IMMUNOBIOLOGY (CROSS-LISTED AS BIO 370) (LAB FEE)**

Basic factors governing immune phenomena and antigen antibody reactions. Lecture-laboratory. Lab fee.

**BIO 486 INTRODUCTION TO ENDOCRINOLOGY (CROSS-LISTED AS BIO 386)**

A study of hormones as chemical regulators of development, growth, metabolism, homeostasis, reproduction, response to stress, and behavior; as well as hormone synthesis, chemistry, mechanisms of action, and endocrine gland structure. PREREQUISITE(S):BIO 250, BIO 260, and BIO 310 or consent of instructor.

**BIO 488 ADVANCED ENDOCRINOLOGY**

Analysis of non-hypothalamic-hypophyseal pathways for hormonal regulation of the structure, function and biochemistry of hard tissues, calcium metabolism, and regulation of glucose metabolism. Lecture-seminar. PREREQUISITE(S):BIO 386 or BIO 486, or equivalent.

**BIO 490 SPECIAL TOPICS (CROSS-LISTED AS BIO 390)**

Occasional courses offered at the graduate level. See schedule for current offerings. Two or four quarter hours. PREREQUISITE(S):graduate standing in Biology.

**BIO 491 MASTER OF ARTS SEMINAR**

A seminar course dealing with current readings in the biological sciences. Students will evaluate and interpret these readings both orally and in writing. PREREQUISITE(S):Second year standing in the Master of Arts program

**BIO 495 INTRODUCTION TO GRADUATE STUDY**

Presents the biology faculty and facilities. Various research and teaching methods in biology will be explored. Consideration of such topics as laboratory safety, handling of radioactive chemicals, instrument and equipment use, handling living organisms, library and computer use, etc. Required of all graduate students. Autumn quarter only. Two quarter hours.

**BIO 496 RESEARCH**

Experimental work in selected areas of biology. These studies do not necessarily relate to a thesis. Autumn, Winter, Spring, Summer. Laboratory. Two or four quarter hours. Laboratory fee. PREREQUISITE(S):Approval of the department.

**BIO 498 RESEARCH FOR MASTER'S THESIS**

Original study of a specific biological problem leading to a thesis. Autumn, Winter, Spring, Summer. Laboratory. Two or four quarter hours. Laboratory fee. PREREQUISITE(S):Approval of the department.

**BIO 500 SEMINAR (REQUIRED FOR FIRST YEAR GRADUATE STUDENTS)**

Non-credit. Presentation, throughout the academic year, of their research by practicing scientists from a variety of institutions. Required of first year graduate students.

**BIO 501 SEMINAR CONTINUATION (REQUIRED FOR SECOND YEAR GRADUATE STUDENTS)**

Non-credit. Presentation, throughout the academic year, of their research by practicing scientists from a variety of institutions. Required of second year graduate students.

**BIO 502 CANDIDACY CONTINUATION**

Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research. Non-credit. Fee.

**BUSINESS LAW**

**BLW 500 LEGAL AND ETHICAL ENVIRONMENT (PREREQ: GRADUATE STANDING)**

This is an introduction to the nature and sources of law, including an analysis of ethical perspectives present in the judicial process. Students will learn how legal and ethical issues influence the decision-making process of managers. Students will explore the relationship between personal values and business decisions, and whether there exists a social responsibility of managers. This course will cover legal concepts relevant to business including basic concepts of public law (constitutional and administrative law) and private laws (sales and product liability). Students will examine business organizations and issues in employment law. PREREQUISITE: Graduate Standing

**BLW 506 LEGAL ASPECTS OF BUSINESS-IN THE MANAGERIAL PROCESS (PREREQ: BLW 500)**

In addition to a presentation of general corporate legal theory, stress is placed upon the most critical aspect of administrative legal liability and duties out of which this flows. The internal and external responsibilities of the corporate officer, director or manager as well as those of the members of partnerships are reviewed thoroughly in the light of recent legal developments. PREREQUISITE(S): BLW 500.

**BLW 508 LEGAL ASPECTS OF BUSINESS-TOTAL PERSPECTIVE FOR THE EXECUTIVE**

Personal and professional legal liability of officers and directors has received considerable attention in recent years, thus highlighting the need for a view of the totality of his or her legal environment. It demands an integrated understanding and planning of the reciprocal aspects of his or her legal, social and ethical responsibilities and rights encountered in his or her office, outside and at home. From the end of the spectrum focusing on possible criminal and civil liabilities to the personal responsibilities of proper estate planning; the "socio-legal world of the executive" is presented. PREREQUISITE(S): BLW 500.

**BLW 798 SPECIAL TOPICS (PREREQ: BLW 500)**

Content and format of this course are variable. Subject matter will be indicated in class schedule. PREREQUISITE(S): BLW 500.

**BLW 799 INDEPENDENT STUDY (PREREQ: WRITTEN PERMISSION)**

Available to graduate students of demonstrated capability for intensive independent work in business law. PREREQUISITE: Written permission.

**CHEMISTRY**

**CHE 412 QUANTUM CHEMISTRY (PREREQUISTE: CHE 215)**

Quantum chemistry, electronic structure of atoms and molecules, molecular spectroscopy. PREREQUISTE(S):CHE 215. (Cross-listed as CHE 312)

**CHE 422 ADVANCED INORGANIC CHEMISTRY I**

Offered: Winter of even-numbered years.

**CHE 424 ADVANCED INORGANIC CHEMISTRY II (PREREQ: CHE 422 ) (OFFERED EVEN-NUMBERED YEARS)**

Offered: Spring of even-numbered years PREREQUISTE(S):CHE 422

**CHE 430 POLYMER SYNTHESIS (OFFERED EVEN-NUMBERED YEARS)**

Offered: Spring of even-numbered years PREREQUISTE(S):CHE 175 or CHE 125 or equivalent.

**CHE 432 PHYSICAL CHEMISTRY OF POLYMERS (OFFERED ODD-NUMBERED YEARS)**

Offered: Spring of odd-numbered years PREREQUISTE(S):CHE 215 or equivalent.

**CHE 434 POLYMER CHARACTERIZATION (OFFERED EVEN-NUMBERED YEARS)**

Offered: Autumn of even numbered years. PREREQUISTE(S):CHE 215 or equivalent.

**CHE 440 BIOCHEMISTRY III (CROSS-LISTED AS CHE 344)**

Offered: Spring (Cross-listed as CHE 344)

**CHE 442 ADVANCED BIOCHEMISTRY I**

In-depth exploration of the structure/function relationship of biomolecules, especially proteins. Offered: Autumn of even-numbered years.

**CHE 444 ADVANCED BIOCHEMISTRY II (PREREQ: CHE 442)**

Discussion and seminars in selected areas. Offered: Winter of odd-numbered years. PREREQUISTE(S):CHE 442.

**CHE 450 ADVANCED ORGANIC CHEMISTRY I**

Offered: Autumn PREREQUISTE(S):CHE 125 or CHE 175 and CHE 210.

**CHE 452 ADVANCED ORGANIC CHEMISTRY II (PREREQUISITE: CHE 450)**

Offered: Winter PREREQUISTE(S):CHE 450.

**CHE 460 COATINGS TECHNOLOGY I (OFFERED ODD-NUMBERED YEARS)**

Offered: Spring of odd-numbered years. PREREQUISTE(S):CHE 175 or CHE 125 and CHE 215 or equivalent.

**CHE 461 COATINGS TECHNOLOGY LABORATORY I (LAB FEE)**

2 quarter hours. Laboratory fee: \$70.00. Offered: Spring of odd-numbered years.  
PREREQUISITE(S):CHE 175 or CHE 125, and CHE 215, or equivalent.

**CHE 462 COATINGS TECHNOLOGY II (OFFERED ODD-NUMBERED YEARS)**

Offered Autumn of odd-numbered years. PREREQUISITE(S): CHE 175 or CHE 125;  
CHE 215 or equivalent; and CHE 430.

**CHE 463 COATINGS TECHNOLOGY LABORATORY II (FEES)**

Two quarter hours. Laboratory fee: \$70.00. Offered: Autumn of odd-numbered years.  
PREREQUISITE(S):CHE 175 or CHE 125 and CHE 215 or equivalent.

**CHE 470 ADVANCED PHYSICAL CHEMISTRY I**

Thermodynamics. Offered: Autumn of even-numbered years. PREREQUISITE(S):CHE  
215 or equivalent.

**CHE 472 ADVANCED PHYSICAL CHEMISTRY II (PREREQUISITE: CHE 215)**

Kinetics. Offered: Winter of odd-numbered years. PREREQUISITE(S):CHE 470.

**CHE 478 ADVANCED TOPIC IN PHYSICAL CHEMISTRY**

This course may be repeated for credit if the topic is different. Offered: by arrangement.

**CHE 480 SPECIAL TOPICS IN ANALYTICAL CHEMISTRY**

This course may be any topic related to chemical analysis, such as mass spectroscopy,  
electrochemical analysis, principles of chromatography, polymer properties, coatings,  
sampling methods, design of experiments, etc. This course may be repeated if the topics  
are different. Offered: Autumn of odd-numbered years PREREQUISITE(S):CHE 261.

**CHE 490 STATISTICAL ANALYSIS OF DATA (OFFERED ODD-NUMBERED YEARS)**

This course introduces students to statistical methods that can be used in error  
analysis of experimental data. Computers are used to apply concepts discussed in  
lecture to actual data sets. Offered: Winter of even-numbered years. Familiarity with  
Excel or a modern programming language is strongly recommended. (Cross-listed with  
CHE 390)

**CHE 494 SEMINAR**

Formal and/or informal discussion on topical subjects in chemistry. Variable credit.  
This course may be repeated for credit PREREQUISITE(S):Consent

**CHE 496 LIBRARY RESEARCH (ADVISOR CONSENT REQUIRED)**

Students doing library research must register for this course. Variable credit. This  
course may be repeated for credit.

**CHE 497 RESEARCH**

Students doing laboratory research must register for this course. Variable credit.  
Laboratory fee: \$70.00. Offered every quarter. This course may be repeated for credit.  
PREREQUISITE(S):Permission of advisor.

**CHE 500 INDEPENDENT STUDY**

Variable credit. Offered: by arrangement. This course may be repeated for credit.  
PREREQUISITE(S):permission of chair.

**CHE 502 CANDIDACY CONTINUATION**

Required of all students who are not registered for regular courses but who occasionally  
utilize University facilities during completion of course requirements and/or research.

Non-credit. \$70.00 per quarter.

## **COMMUNICATION**

### **CMN 500 HISTORY OF PUBLIC RELATIONS AND ADVERTISING**

This course offers students a survey of significant historical developments in the rise of American public relations and advertising, including the individuals and the social, cultural and political trends that have shaped the fields in the nineteenth and twentieth centuries. Students will consider the relationship between current professional practice and the evolution of modern public relations and advertising techniques.

### **CMN 501 COMMUNICATION IN CULTURAL CONTEXTS**

Analyzes theories of the interaction between culture and communication. Investigates the facets of culture that influence communication in a variety of settings, ranging from corporate and educational realms to social and familial domains, particularly among people from different cultures. Examines how communication can serve to bridge gaps in a multicultural setting.

### **CMN 502 INTERCULTURAL COMMUNICATION THEORIES**

The course provides an overview of different theories of intercultural communication. The course also prepares students to conduct pure theoretical inquiry and theory-driven research into intercultural communication practices, processes, and patterns.

### **CMN 503 COMMUNICATION AND CULTURES IN TRANSITION**

Explores the role of communication in facilitating and inducing cultural change on a national and international scale. Examines the interaction between culture and communication and the impact of interaction on cultural transition and transformation in contemporary societies. The course takes a case study approach to one international culture (eg. China, India, Latin American countries, Russia, Saudi Arabia) or of social issues and social movements in the United States (eg. women's liberation, civil rights, pop cultures).

### **CMN 504 LANGUAGE, THOUGHT AND CULTURE**

This course examines the interrelationship among language, thought, and culture. Reviews and critiques theories and research of how language or the use of symbols reflects culture and shapes reality for certain cultural/ethnic groups and organizations. Explores how language influences thought and action of the collective and of individuals in social, political and organizational settings.

### **CMN 505 CRITICAL PERSPECTIVES ON PUBLIC RELATIONS AND ADVERTISING (PREREQ: CMN 555)**

This course examines the ever-increasing influence of public relations and advertising in our society, highlighting issues of power and social responsibility. Students are asked to think critically about the societal effects of public relations and advertising and their roles in the production and maintenance of public opinion. Future practitioners consider the potentially adversarial relationship that exists between public relations and advertising and the media in societies based on a free press.

### **CMN 509 TOPICS IN MULTICULTURAL COMMUNICATION**

Offers topics such as: A) Interethnic Communication. Examines theories and research on ethnicity and interactions among different ethnic groups. Investigates

communication patterns and roots of different ethnic groups in the US. and explores the role of communication in achieving diversity and unity. B) E.T. Hall: Theory to Practice: This course reviews theories that have stemmed from the work of Edward T. Hall. The course requires students to engage in theory development based on his ideas and then develop a research project to test the theories that have developed.

#### **CMN 510 SPEECH WRITING AND PRESENTATION**

The course will allow students to gain experience writing and delivering speeches and making professional presentations. An emphasis will be placed on the role of speeches and speechwriters and the responsibilities associated with those involved in such an integral part of a democratic society. The multiple uses and value of speeches and presentations as public relations tools will also be addressed.

#### **CMN 515 PUBLIC RELATIONS WRITING**

The goal of this course is to help students develop the professional writing skills needed for success in public relations. Students analyze the process of strategic public relations planning and explore the communication techniques used to establish positive relationships with organizational constituents. They apply what they have learned by developing and presenting a variety of public relations materials, such as program plans, news releases, magazine/report/newsletter copy, video scripts, web copy and speeches. Upon the successful completion of this course, students will have a professional portfolio of public relations writing samples. (Prerequisite: CMN 555).

#### **CMN 520 PUBLIC RELATIONS THEORY**

This course is designed to orient students to the theories that dominate Public relations scholarship, as well as the prevailing theories applied in practice. Students will review the historical evolution of various theories, critiques that have contributed to theory development, and the current status of various theories in the field. (Prerequisite: CMN 555)

#### **CMN 521 LANGUAGE AND POWER**

Reviews the role of language and representation as social power. Topics include rhetorical form as strategy, semiotic analysis of power relations, language and the construction of subjectivity, and discursive structures of empowerment.

#### **CMN 522 RHETORICAL CONSTRUCTIONS OF IDENTITY**

Focuses on the rhetorical theories and practices through which various cultural groups within the US. construct a sense of identity. The course examines different rhetorical forms and strategies through an analysis of the rhetorical situations, texts and artifacts of various cultural groups.

#### **CMN 523 GENDERED COMMUNICATION (CROSS-LISTED AS MLS 445/WMS 440)**

Examines research into the ways the various aspects of communication are affected by and affect the social construction of gender. Topics covered include language and language usage differences, interaction patterns and perceptions of the sexes generated through language and communication.

#### **CMN 524 PERSUASION**

This course introduces students to theories of persuasive communication used in public relations and advertising. Persuasion will be examined at interpersonal, group, and societal levels. Students also will consider the ethical considerations important in any discussion of persuasive communication.

### **CMN 525 COMPARATIVE MANAGEMENT COMMUNICATION**

Comparative Management Communication explores the challenges and opportunities associated with communication with individuals and groups of other countries in a workplace setting. As such, this course begins with a close look at the cultural dimensions along which individuals of differing nationalities have been found to vary. An examination of the applicability of cutting edge U.S. management theory/prescription around the world follows. Next, the course surveys the intercultural communication training literature. Here, particular emphasis is given to international personnel selection, as well as intercultural training program development and assessment. The implications of these issues for sojourner adaptation are also considered. The final part of this class is devoted to developing an understanding of an emerging field of research - intercultural and organizational communication - which examines the intersection between organizational and culture in the multinational organization environment.

### **CMN 526 COMMUNICATION IN ORGANIZATIONAL ASSIMILATION**

This class introduces students to the processes by which individuals join, become a part of, and exit organizations. The course structure closely parallels the popular organizational assimilation stage model outlined below, but takes an explicit multicultural perspective throughout. Specifically, in addition to discussing the traditional body of work on this subject, which often ignores issues of diversity, this course examines the organizational assimilation experiences for women, gays/lesbians, and ethnic minorities in the United States. Revealed here are some of the subtle and not-so-subtle ways which employees can be discriminated against at different stages of the assimilation process.

### **CMN 527 ASSESSMENT AND INTERVENTION IN ORGANIZATIONS**

Organizations are symbolic realities constructed by humans in communication. In other words, organizations are creations, and both organizational members and observers need to comprehend them as such. Communication 527 is devoted to preparing you to become communication professionals able to understand organizations through the analysis of organizational patterns of meanings and expectations. Communication professionals help organizations to improve communication by (1) identifying differences between actual and desired conditions of communication and (2) devising ways to close the gap between actual and desired states. The first function involves organizational communication evaluation (gathering, analyzing, and interpreting data about an organization's communication processes). The second function is referred to as intervention (actions taken to improve organization communication). People who perform organizational communication evaluation and intervention may be members of the organization or outside agents brought in to perform specific projects. This class will on the role of the communication professional in the maintenance and change of organizational communication functions, structures, and the communication processes that occur at various systems levels, including dyads, groups, intercultural and multicultural relations, and organization-wide network processes.

### **CMN 530 PUBLIC RELATIONS AND ADVERTISING MANAGEMENT (PREREQ: CMN 555 AND CMN 553)**

This course focuses on the application of management principles and practices to the effective development of public relations and advertising plans, programs and campaigns. The course examines management practices in organizational and firm settings and considers issues and practices related to planning, budgeting, new business development and account management. PREREQUISITES: CMN 555 and CMN 553.

**CMN 535 HEALTH COMMUNICATION**

This course will help students understand the organizational impact of health policy in America and prepare students to assume roles in communication management positions in the United States health care industry. Students will explore current issues in health policy such as the problem of the uninsured, the rising cost of health care, and the politics of health. Each student will be responsible for focusing on a particular aspect of health policy and developing a report on the topic.

**CMN 540 CRISIS COMMUNICATION MANAGEMENT**

This course examines institutional crisis communication from a management perspective. Emphasis is on crisis response strategies and organizational approaches for preventing and managing crisis events. Students develop case studies of contemporary crises and participate in simulations designed to develop professional expertise and practical skills in crisis communication management.

**CMN 541 CORPORATE COMMUNICATION AND CULTURE (CROSS-LISTED AS MPS 501)**

The central purpose of this course is to introduce students to the role communication plays in organizational life. Throughout the quarter, attention will be devoted to examining the various theoretical perspectives from which organizational communication can be viewed, and selectively surveying major content topics and current issues in the organizational communication literature.

**CMN 542 MULTICULTURAL COMMUNICATION IN THE WORKPLACE**

Multicultural issues affect the communication of organizational members on a day-to-day basis. This course examines multicultural issues in professional settings. It provides students with knowledge about co-cultural communication patterns, which will enhance their own ability to interact. Further, it demonstrates how multicultural communication can be an organizational asset.

**CMN 543 COMMUNICATION AND ORGANIZATIONAL CHANGE**

Change in an organization implies change in communicative processes at the individual, dyadic, group and systemic levels. Communication variables that define patterns of interaction within these organizational contexts will be examined as well as key issues that might cause communication difficulties.

**CMN 544 POLITICS AND POWER IN ORGANIZATIONS**

Examines political activities sanctioned and encouraged by organizations, subjective political activities initiated by individuals, bases of power within organizations (influence strategies), living and working with organizational politics (coping mechanisms).

**CMN 545 COMMUNICATION AND TECHNOLOGY**

Communication and Technology explores the process through which technological and social systems co-create or invent each other. As such, this course not only examines the role that new communication technologies play in shaping our social systems and the organizations within them, but also looks at how social, cultural, economic and legal contexts influence the development and emergence of these technologies.

**CMN 546 BUSINESS AND PROFESSIONAL COMMUNICATION**

Explores presentational skills, interviewing skills, bargaining and negotiating skills, and small group communication skills. Surveys topics critical to effective managerial communication in a corporate environment.

**CMN 547 COMMUNICATION IN CUSTOMER SERVICE**

America's economy is currently driven by service industries. In this course we will explore the communicative dimensions of customer service. By reviewing the theory and research of customer service and exploring the research methods available for assessing service, students will be both better able to appreciate the service process and diagnose and change ineffective service systems.

**CMN 548 TEAMS AND LEADERSHIP****CMN 549 TOPICS IN CORPORATE COMMUNICATION**

Offers topics such as: Comparative Management and Communication. Examines and contrasts the management philosophies of different cultures around the world, paying special attention to how European and Asian organizational practices influence structure, culture and communication within American corporations.

**CMN 552 STRATEGIC COMMUNICATION**

This course explores the process by which communicators attempt to accomplish their goals. In particular, this course covers theories of persuasion, strategic message design (creating messages that take into account multiple audiences and goals), and how the inferential process influences decision-making.

**CMN 553 ADVERTISING**

This foundational course examines the theories, principles, applications and standards of advertising in multiple contexts, both from the perspectives of the practitioner and the consumer.

**CMN 555 PUBLIC RELATIONS**

This course involves the study of the theory, history, practice and future of public relations in a comprehensive way. It is a course designed to allow public relations students to understand the breadth of the field and to investigate specific areas of public relations (i.e., political, medical, financial, government, corporate, education, etc.). It will also cover the operations and objectives PR practice from both the corporate and non-profit sectors.

**CMN 560 POLITICAL PUBLIC RELATIONS**

Political public relations focuses on the development and delivery of strategic messages by political parties, candidates, and officeholders in American politics. Students will be responsible for researching, discussing, and evaluating the effectiveness of these messages. Special emphasis will be placed on the role of the spokesperson on a political campaign and/or serving as a spokesperson for an elected official.

**CMN 561 INTERNATIONAL MEDIA**

Examines the political economy of the global media, with attention to institutional, historical, and contemporary questions of ownership and program content, as well as representations by the US. commercial news media of the foreign other and the representation of Western culture and institutional life in non-Western contexts. Includes examination of issues in the mass media now debated within the international community, pursuing questions about the New World Information Order, the international marketplace of images, cultural imperialism and national culture, and types of programming aimed at an international audience.

**CMN 562 MEDIA RELATIONS**

Explores the communication between reporters and organizational spokespeople. Topics include goals of reporters and spokespeople during the transmission of information, interpretation of the various types of corporate media for reporters, techniques for

corporate spokespeople for giving effective interviews. Case studies (eg. Michael Deaver's handling of Ronald Reagan's presidential image) will be analyzed.

**CMN 563 MULTICULTURAL MEDIA REPRESENTATIONS (PREREQ(S): CMN 346 OR EQUIVALENT)**

This course examines both representational practices and theories that are informed by multicultural perspectives. It explores ways in which scholars and media practitioners have dealt with the epistemological problem of "difference" The course may take up topics such as race, class, age, and sexual orientation as categories of difference that have informed and continue to inform academic inquiries. The course also looks at historical and/or contemporary media texts, and analyzes them through these methods. PREREQUISITE(S):CMN 346 Culture and Media or its equivalent.

**CMN 564 MEDIATED COMMUNICATION**

**CMN 575 COMMUNICATION LAW AND ETHICS**

This course covers the aspects of communication law and ethics relevant to communication professionals. Legal topics include First Amendment concepts, libel, privacy, copyright, freedom of information, and regulation of advertising. The ethical component focuses on the professional responsibilities of practitioners in communication fields with special emphasis on public relations and advertising.

**CMN 580 INTRODUCTION TO ACADEMIC WRITING**

This course prepares incoming graduate students with basic academic writing skills required at the graduate level. It covers an introduction to library research, critical reading and writing, essay writing mechanics, grammar and punctuation, MLA and APA documentation. The class will be conducted with some lectures and mostly discussions on esoteric writing issues related specifically to graduate students.

**CMN 581 QUALITATIVE RESEARCH METHODS**

Introduction to qualitative approaches to research in communication. The course includes a systematic review and application of ethnography, unstructured interviewing, personal document analysis, historical research, and critical practice. Addresses the rationale, method, and theory of each qualitative approach to research in addition to placing emphasis upon data collection and interpretation.

**CMN 582 QUANTITATIVE RESEARCH METHODS**

Introduces students to quantitative approaches to research and basic statistics. Topics include research design and control, survey construction, measurement and other general research issues, nonparametric statistics, correlation, the t-test and analysis of variance.

**CMN 584 ADVANCED ACADEMIC WRITING**

This course addresses academic writing concerns for graduate students who are preparing to write their theses. The course will combine individualized conferencing with group discussion. The students will use their own previous work(s) as an investigative tool in understanding both their individual writing needs as well as the theoretical issues which exist in writing a master's thesis. The course will also examine examples of completed theses as models for the student's own final work. Student should submit a paper to the instructor as soon after registration as possible, but certainly before the first night of class.

**CMN 585 RESEARCH METHODS FOR THE COMMUNICATION PROFESSIONAL**

This course covers core issues involved in the collection and analysis of information to be used in decision-making. Topics covered include the retrieval of archival data, survey

design, focus group interviewing, sampling techniques, techniques for analyzing data, and campaign evaluation.

#### **CMN 590 COMMUNICATION PRACTICUM IN GROUP FACILITATION**

#### **CMN 591 INTERNSHIP**

In consultation with the graduate advisor and the internship director, students design a field experience to be undertaken under the supervision of a project director in the field. The internship may be connected to a question derived from coursework, related to the student's thesis topic, or based on a personal research objective. It may include appropriate experiences determined by the field supervisor as well as the student's individual goals.

#### **CMN 592 INDEPENDENT STUDY (PREREQUISITE:APPROVAL OF INSTRUCTOR AND DEPARTMENT CHAIR)**

PREREQUISITE(S):approval of instructor and chair.

#### **CMN 595 SPECIAL TOPICS IN PUBLIC RELATIONS & ADVERTISING (PROCESS)**

This course examines a broad range of topics related to public relations and advertising processes. The course may address such topics as issues management, consumer behavior, relationship management, strategic planning and program development, or integrated communication campaigns.

#### **CMN 596 SPECIAL TOPICS IN PUBLIC RELATIONS/ADVERTISING (APPLICATION) (PREREQ: CMN 553)**

This course examines a broad range of application topics in public relations and advertising. Courses may address the uses and impact of new technologies, publication design, proposal writing, Web-based media writing, computer graphics, video production, creativity and other topics. Other courses may focus on specific industry applications in such areas as education, sports and entertainment, arts and culture, health and science, financial or technology.

#### **CMN 597 COLLOQUIUM ON PUBLIC RELATIONS AND ADVERTISING**

This course brings students together with professionals in public relations and advertising to illustrate the diverse nature and responsibilities of work in these fields. Speakers from non-profit, corporate and government settings are invited to share their professional experiences and to discuss industry trends and issues; the knowledge competencies and skills required to succeed in these domains, and/or current topics/events related to public relations and advertising practices.

#### **CMN 598 SPECIAL TOPICS IN CORPORATE COMMUNICATION**

This course addresses additional topics in corporate communication. Such offerings have included: Organizational assimilation - the process through which newcomers in organizations become enculturated; Power and resistance in Organizations - which explores the use and abuse of power in organizations as well as the tactics individuals use to resist dominant power structures; and Communication and Customer Service.

#### **CMN 599 FINAL PROJECT/THESIS RESEARCH**

Four credit hours.

#### **CMN 602 CANDIDACY CONTINUATION**

Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research.

Non-credit. \$40.00 per quarter.

## **COMPUTER, INFORMATION AND NETWORK SECURITY**

### **CNS 594 COMPUTER INFORMATION AND NETWORK SECURITY CAPSTONE**

Design, setup and configuration of realistic enterprise computing and networking environments. Securing the infrastructure and integration of different services and technology in efficient, secured and redundant manners. Technologies will include: open-source and commercial products, firewalls, Virtual Private Networks (VPNs), authentication systems, Intrusion Detection Systems (IDS), advanced routing mechanisms (OSPF, BGP, IS-IS), highly redundant and robust networking.

PREREQUISITE(S): TDC 572 required; IS 572 recommended

## **COMPOSITION (MUSIC)**

### **COM 415 COMPOSITION**

The study of advanced compositional issues at the graduate level which will culminate in a final composition project.

### **COM 421 SEMINAR IN COMPOSITION**

### **COM 441 COMPOSITION I**

(4 credits) This course series will focus on advanced compositional issues at the graduate level and culminate in a final composition project.

### **COM 442 COMPOSITION II**

(4 credits) This course series will focus on advanced compositional issues at the graduate level and culminate in a final composition project.

### **COM 443 COMPOSITION III**

(4 credits) This course series will focus on advanced compositional issues at the graduate level and culminate in a final composition project.

### **COM 444 PROBLEMS, PROCEDURES AND TECHNIQUES IN THE PERFORMANCE OF NEW MUSIC**

(4 credits) By means of discussion, performance and notation analysis and, when possible, performance itself, this course will explore the performance challenges of innovative notation and the new complexities of traditional notation as a means of enlarging the student's technical and poetic capacities.

### **COM 445 TWENTIETH CENTURY MUSIC TOPICS**

(4 credits) (Preferably taken after COM 444) The subject matter of this course will change from year to year depending upon faculty availability and student interest. Possible subjects could include, among others: An in-depth study of a 20th-century composer or "school" of composers; a study of 20th-century aesthetics; a study of 20th-century theories; a study of music sociology of the 20th-century; a study of new trends such as multi-media, computer music, etc.

**COM 498 INDEPENDENT STUDY**

**COM 499 THESIS COMPOSITION**

**CURRICULUM STUDIES**

**CS 402 NUMBER AND OPERATIONS: BUILDING A FOUNDATION FOR ALGEBRAIC THINKING**

An introduction to developing algebraic thinking in K-5th grade students through the use of numbers and operations. Students will investigate the whole number and rational number systems, the relationships of numbers, and the meaning and relationship of operations. These concepts will be appropriately extended to algebraic reasoning in a collaborative problem-solving environment. Assessing student learning, appropriate use of technology and literature connections are integral components of the course. Exemplary mathematics programs and assessment materials will be used throughout the course.

**CS 403 GEOMETRY FOR PRIMARY TEACHERS**

An introduction to geometry for teachers in K-5th grade. It will engage students in the construction, description, and analysis of geometric objects. Emphasis throughout will be on careful description, the development of geometric language, informal reasoning, and reflection on learning. Topics will include: angles, triangles (including the Pythagorean theorem), properties of polygons, projections, congruence, similarity, and measurement of length, area, and volume. Exemplary mathematics programs and assessment materials will be used throughout the course. Exemplary mathematics programs and assessment materials will be used throughout the course.

**CS 404 MATHEMATICAL AND PEDAGOGICAL ISSUES FOR PRIMARY TEACHERS**

This course is designed to help K-5 teachers make more informed and appropriate decisions about curriculum materials and pedagogical strategies, with special emphasis on how choices are related to what we know from research about how children develop mathematical content knowledge. We will examine the historic roots of recommendations for best practices and general theories about child development. Then we will analyse their impact on a variety of curriculum materials for teaching K-5 mathematics including Everyday Mathematics and Trailblazers and consider the theoretical and practical influences of these texts on children's learning of mathematics.

**CS 408 NUMBER SYSTEMS FOR MIDDLE SCHOOL TEACHERS**

An investigation of topics in number theory and the foundations of the real number system. Content includes: estimation, approximation, and number sense; numeration; number patters (e.g., square, triangular, oblong, or tetrahedral numbers); prime and composite numbers and divisibility; rational numbers, ratio, and proportion; irrationals, transcendentals, and the construction of the real number system; and countability and orders of infinity.

**CS 409 QUANTITATIVE REASONING FOR TEACHERS**

In order to interpret and change our physical and social world, it is necessary to understand quantitative reasoning. This course will analyze, critique, and develop quantitative arguments in numerical, graphical, and verbal form. A variety of appropriate technology will be introduced and used throughout the course. Topics will

include: uses of numbers; scaling and measurement; functions and graphs; linear, inversely proportional, and exponential relationships; distributions and their descriptive measures; variability and the normal curve; correlation and causation; probability; and statistical inference. Exemplary materials from curriculum projects will be included.

#### **CS 410 THE PSYCHOLOGY OF LEARNING MATHEMATICS AND SCIENCE**

##### **CS 411 SCIENCE PROCESSES I**

This course will use common, everyday materials to study naturally occurring phenomena. Students will be expected to learn about the processes and content of science by becoming actively involved in doing science. Activities will cover topics in biology, chemistry and physics.

##### **CS 412 SCIENCE PROCESSES II**

A continuation of Science Processes I with the same emphasis on active involvement and the processes of scientific inquiry. Naturally occurring phenomena which are not experienced in everyday living will be the objects of study.

##### **CS 413 GEOMETRY FOR MIDDLE SCHOOL TEACHERS**

This course is an introduction to geometry which will engage students in the construction, description, and analysis of geometric objects. Students will start by building three dimensional objects which will then be used to generate questions and hypotheses. These will lead to more abstract concepts in two as well as in three dimensions. Topics will include: properties of polygons and polyhedra; nets and projections; congruence and similarity; the Pythagorean theorem; perimeter, area, and volume. Emphasis throughout will be on informal reasoning and reflection on learning.

##### **CS 414 ALGEBRAIC MODELING FOR MIDDLE SCHOOL TEACHERS**

This course offers students opportunities to investigate a variety of real-world situations, in collaboration with others, in order to enhance their understanding of algebra. For each situation, students will be expected to use appropriate technology to analyze the situation, develop mathematical models of the situation, check and verify these models and revise them as necessary. Mathematical topics will include: integers and their properties; algebraic expressions, including polynomial, rational, and radical expressions; factoring; linear, quadratic, and absolute value equations and inequalities; functions, coordinate systems, graphs, and rates of change; and the interpretation of graphs and systems of linear equations. Exemplary materials from national curriculum projects and texts (such as Connected Mathematics or Mathematics) will be included as the starting point for investigations.

##### **CS 420 COMPUTERS IN EDUCATION**

An introduction to educational computing for educators and administrators who have no previous computer experience. Students will use e-mail, list serves, discussion groups, and the World Wide Web to learn about technology and how to integrate it into curriculum. The course includes: an overview of hardware and educational software; an introduction to basic concepts in computing and computer usage; and discussion of critical issues in computer usage including the likely social and organizational consequences of the increased use of computers in schools. Hands-on experience with a variety of commonly used hardware and educational software will be provided.

##### **CS 421 COMPUTER PROGRAMMING WITH LOGO**

An introduction to computer programming using Logo, a powerful, yet easy-to-learn language that both adults and children can use to express their ideas. This course covers the programming concepts needed for turtle graphics, including procedure definition, use of variables, file management, structured programming, and tail-

recursion. Extensive hands-on experience will be provided, and classroom applications (especially for students in grades 3 through 8) will be discussed. No previous computer experience is required.

#### **CS 422 INTERMEDIATE LOGO PROGRAMMING**

#### **CS 423 COMPUTER AND CALCULATOR SCIENCE LABS**

This course examines issues critical for integrating technology into mathematics and science classrooms using technology based labs. It will demonstrate how computers and calculators can be used to measure force, light, pressure, temperature, velocity, acceleration, heart rate, pH and a variety of other qualities from the observable world. After learning how to use probes to measure phenomena, participants will then design activities and lesson plans for classroom use. Attention will also be given to using technology to revitalize mathematics and science education. The course is ideal for elementary and secondary teachers looking for meaningful ways to integrate mathematics and science.

#### **CS 424 COMPUTERS AND WRITING**

#### **CS 425 WORKSHOP FOR IN-SERVICE TEACHERS**

Workshop for In-Service Teachers. Topics of particular interest and concern to educators will be presented in a high-involvement seminar format.

#### **CS 430 TEACHING CONSUMER EDUCATION**

#### **CS 445 INTEGRATING ECONOMICS IN THE HIGH SCHOOL CURRICULUM (CROSS LISTED ECO 445)**

#### **CS 447 TEACHING WRITING IN THE ELEMENTARY AND MIDDLE SCHOOL**

This course is designed to provide pre- and in-service teachers with the opportunity to study and reflect upon developmental and instructional aspects of learning and teaching writing in elementary and middle schools. Students should leave with the theoretical and practices knowledge needed to develop a coherent and developmentally appropriate writing curriculum that is an integral part of classroom practices. They will have an opportunity to experience a variety of instructional strategies as they work with elementary and middle school students as they engage themselves in a variety of writing experiences. This course includes discussion and exploration of the uses of technology in the teaching and writing and also addresses the needs of special populations in relation to the development and assessment of written language skills.

#### **CS 450 USING TECHNOLOGY IN MIDDLE SCHOOL MATHEMATICS**

This course is an introduction to the uses of technology-especially computers, calculators, and software-as tools for investigating significant mathematical ideas. The emphasis will be on mathematical discovery and invention in order to enhance students' mathematical intuition and understanding of fundamental mathematical concepts: geometry will be the primary area of investigation, although some topics in number theory and algebra will be included. In addition to engaging in mathematical inquiry, this course will discuss how technology can support the reform of mathematics teaching and will develop a framework for evaluating mathematics software.

#### **CS 451 TEACHING, LEARNING AND ASSESSING MIDDLE SCHOOL MATHEMATICS I**

This course will examine, in an interconnected way, the following themes: 1) how children learn mathematics with conceptual understanding; 2) how to teach

mathematics so that children learn with understanding; 3) how to assess children's mathematical knowledge to inform instruction and determine their growth, and 4) the nature and content of innovative curriculum projects designed to teach mathematics for conceptual understanding. Exemplary curriculum materials will be used throughout.

**CS 452 TEACHING, LEARNING AND ASSESSING MIDDLE SCHOOL MATHEMATICS II**

A continuation of CS 451.

**CS 457 EXAMINING, LEARNING AND TEACHING: MATHEMATICS**

In this seminar, participants construct meaningful connections between personally becoming a learner of mathematics (who can solve problems, reason mathematically, communicate findings and thinking, and make connections) and learning to teach mathematics so that diverse groups of students can develop the same kinds of skills. Through the interplay of analyzing narratives about their own classroom experiences and literature or research about others' experiences, participants will examine the impact of developmental and interpersonal experiences on learning and teaching mathematics.

**CS 458 RESTRUCTURING MATHEMATICS EDUCATION IN SCHOOLS**

This seminar will move teachers beyond their own classrooms and help them to become advocates for reform of mathematics education at the elementary and middle school levels. It will ask them to develop compelling arguments for reform in mathematics education in their schools and position them as persuaders who can negotiate their way around a building. It will involve readings and discussion on school restructuring in general as well as mathematics education in particular. After collecting necessary survival data, identifying support systems, and analyzing existing conditions and power relationships within a particular school, each participant will be expected to develop a comprehensive plan for restructuring mathematics education which confronts these realities. To the extent possible, students, colleagues, parents, and community members should all have input and, where appropriate, sign off on the plan.

**CS 460 LEARNING IN A TECHNOLOGY-SUPPORTED CLASSROOM**

An examination of current theories about instructional technology and of recent literature in the field. Students will become familiar with particular technology appropriate for their areas of interest and will learn to evaluate this software for a variety of instructional purposes. The course includes: frameworks for classifying educational uses of the technology; an analysis of selected research on educational technology; theories and practices of using technology in classrooms; and the advantages and disadvantages of distance learning. Emphasis throughout will be on why and how technology can be used to enhance the learning process. [Assumes a background equivalent to that provided by CS 420].

**CS 470 TEACHERS AS LEADERS**

Develops skills in designing and implementing collaborative and consultative approaches to instruction; enhances skills needed to communicate effectively with other educators, administrators, and parents. Explores shared decision-making, school restructuring, school-based management, and peer coaching and mentoring.

**CS 471 DIVERSITY IN THE CLASSROOM**

Examines issues related to diversity that result when students from diverse socioeconomic, cultural, linguistic, and academic backgrounds are in the same classroom. Explores the impact of inclusion, ESL, bilingual, and bicultural programs on instruction. Emphasis on developing strategies to meet individual student needs within the regular classroom.

**CS 472 ETHICS, CURRICULUM AND SOCIAL CHANGE**

Explores some major issues impacting curriculum, including cultural and socioeconomic factors, legal issues, conflicting values, pressures for assessment, and the push to include technology. Examines the historical development and current state of education in the U.S. as compared to education in other cultures. Emphasis on ways that educators can work as change agents within the competing demands of these forces.

**CS 473 ASSESSMENT**

Explores current theory and practice regarding alternate forms of assessment, including formal, standardized, and informal tests and inventories; selection, evaluation, and interpretation of tests used in educational settings; portfolio assessment, video performances, and presentations; preparation and use of teacher-made tests; evaluating outcomes; and utilizing data to improve instruction. The critical examination of multiple perspectives of assessment theories, policies and practices center around the emphasis on developing strategies to evaluate student progress.

**CS 481 THE STUDY OF TEACHERS AND TEACHING**

A selective survey and analysis of research on teachers and teaching. Particular emphasis will be placed on the assumptions which are built into various forms of research and the effect these assumptions have on how results should be interpreted and used in supervision and curriculum development. Each student will be expected to become familiar with alternative ways of studying teachers and the teaching process in his/her area of expertise. While many school settings will be utilized because of the many studies done in this area, research in non-school settings will be given a good deal of emphasis.

**CS 482 THE HISTORY OF CURRICULUM PRACTICE**

A survey of trends and movements in curriculum practice. Particular emphasis will be placed on the recurrent nature of curriculum practices and the reasons for this. The underlying models of curriculum practice in their historical settings will be considered as possible methods for modern day needs and the assets and liabilities of those models will be used in viewing modern day practices.

**CS 484 MULTIMEDIA MATERIALS PRODUCTION**

This course will analyze the role of multimedia materials in instruction. A variety of media will be explored (including software, the Internet, audio, video, slides and film). Students will be expected to manipulate a variety of images and produce sample materials for critique and analysis. The primary focus will be on enhancing learning in elementary and secondary schools. PREREQUISITE(S): CS 460 or equivalent.

**CS 485 CURRICULUM/PROGRAM EVALUATION**

The role of evaluation in curriculum/program development. Materials and methods for curriculum/program evaluation in schools and organizations. The planning for an evaluation of an ongoing program will be the major project of this course.

**CS 486 PRACTICUM: CONDUCTING CURRICULUM/PROGRAM EVALUATION (PREREQUISITE: CS 485)**

Practicum: Conducting Curriculum/Program Evaluation (prerequisite: Cs 485)

**CS 487 INTRODUCTION TO CURRICULUM DELIBERATION**

An introduction to systematic and collaborative deliberation on curriculum problems. A pattern for deliberation (including situation analysis, problem discrimination and formulation, development of alternative courses of action, and anticipation of

consequences) will be developed and exemplified. This pattern will be contrasted with other descriptions of curriculum planning. Each student will complete a project which describes his/her systematic formulation of a curriculum problem and a plan of action for resolving it.

**CS 488 DESIGNING AND INTERPRETING CURRICULUM**

An examination of the underlying structures of diverse curricula and of the processes by which they are developed and implemented. Principles and methods for organizing subject matter will be analyzed. The translation of subject matter into curriculum will be examined with particular attention to the assumptions about subject matter built into texts and other curricular materials. Students will analyze curriculum guides and materials to uncover their underlying structures and their explicit and implicit assumptions about subject matter.

**CS 489 DEVELOPING CRITICAL AND CREATIVE THINKING**

In this course students will analyze a wide variety of instructional strategies and curriculum models and apply them to their own school settings. Teacher-centered, student-centered, and computer strategies will be introduced which can be applied to a wide range of ability, grade levels, and subject areas. The emphasis will be on models which call upon students to use and thereby develop critical and creative thinking skills, inquiry, independent research skills, problem solving abilities and communication skills.

**CS 501 CURRICULUM THEORIZING: MULTIPLE LENSES**

**CS 580 RESEARCH SEMINAR IN CURRICULUM STUDIES (PREREQUISITE(S): SIX GRAD COURSE INCL SCG 410 OR EQUIVALENT)**

This course is designed to help graduate students in Curriculum Studies through the difficult process of planning, organizing, drafting, and revising their Master's papers. Students will be expected to complete a literature review and to develop a strong proposal for an integrative paper as a prelude to selecting an advisor for their Master's papers. For M.Ed. students only. PREREQUISITE(S): Six graduate courses including SCG 410 or equivalent.

**CS 581 INTERNSHIP: SOLVING OPERATING PROBLEMS**

Cooperatively arranged experiences in a school or community setting on a full or part time basis under the direct supervision of a person with acknowledged expertise in technology in technology. The intern will help to solve problems, resolve operational conflicts, provide hardware and software support, and assist teachers in their efforts to provide meaningful learning experiences for students. PREREQUISITE(S): CS 460 or equivalent and permission of a faculty advisor.

**CS 582 PRACTICUM IN CURRICULUM STUDIES (PREREQUISITE: PERMISSION OF ADVISOR)**

The student is provided directed experiences in decision-making for curriculum, participation and leadership in curriculum committee activities, planning, and management of learning resource centers and other aspects of curriculum development in a variety of educational settings. PREREQUISITE(S): Permission of program advisor.

**CS 583 UTILIZING MICROCOMPUTERS IN CURRICULUM DEVELOPMENT**

**CS 584 PRACTICUM: DEVELOPING COMPUTER BASED CURRICULUM MATERIALS**

**CS 587 PARTICIPANT RESEARCH IN SCHOOLS: MATHEMATICS EDUCATION**

This course will help teachers conduct research in their own school community, thus helping to improve the mathematics teaching and learning in the school. It will focus on doing action/participant research by bringing together the knowledge bases of multicultural education, teaching for diversity, and mathematics education. Each student will be asked to design, develop, conduct and analyze a (potentially collaborative) action research project in his or her own classroom or school and share the analysis of this project with the seminar group. This project, or an extension of it, may subsequently become the student's Master's paper or thesis.

### **CS 588 INDEPENDENT STUDY IN CURRICULUM STUDIES**

### **CS 589 THESIS RESEARCH IN CURRICULUM STUDIES (PREREQUISITE(S): SCG 410 AND APPROVED THESIS PROPOSAL)**

A student writing a thesis registers for this course for four quarter hours of credit. Where the thesis research and the writing of the thesis itself are prolonged beyond the usual time, the program advisor may require the student to register for additional credit. PREREQUISITE(S): SCG 410 and approved thesis proposal.

### **CS 591 CURRICULUM THEORIZING: MULTIPLE LENSES**

This course examines diverse curriculum discourses, historical as well as contemporary, within a broader context of issues related to education and schooling. It is designed to engage students critically in the study of curricular frameworks, their assumptions, values, and implications for education, schooling, teaching and learning. Major topics include frameworks for defining and conceptualizing curriculum and curricular visions; social, political, and historical contexts of curriculum construction; issues of gender, race, class, and the media; and the curriculum as socially constructed and historically contextualized discourse(s) about what is and what should be taught. Particular content areas will be used as examples.

### **CS 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 per quarter.

### **CS 601 WORKSHOP: ALTERNATIVE APPROACHES TO EARLY CHILDHOOD EDUCATION**

### **CS 606 REVIEW OF LITERATURE**

Review of Literature. This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their disciplines and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searchig data bases. (See the student handbook for additional information about completing Master's papers.)

### **CS 607 INTEGRATIVE PAPER**

Integrative Paper. Non-credit. Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it relates to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of a theory, or, conversely, developing/refining a theory based on investigations made in the field. (See the student handbook for additional information about completing Master's papers.)

### **CS 613 NEGOTIATING CURRICULUM IN THE CLASSROOM**

#### **CS 704 CURRICULUM DISCOURSES/PERSPECTIVES OVER TIME**

This course focuses on the examination of the ways in which curriculum as a field has developed over time: attention to changes in terms of how it has been defined, conceptualized; theoretical and philosophical issues; assumptions and values; as well as implications for teaching and learning. These topics will be addressed within different historical and social contexts. Readings will include primary texts by major theorists as well as secondary material including commentary and critique. A primary goal of the course is to provide students with an overview of major movements in curriculum history as a foundation for further study. This course will serve as a prerequisite for all other curriculum courses in the doctoral program.

#### **CS 751 CURRICULUM FOR HUMAN AND COMMUNITY DEVELOPMENT**

This course examines theories and practices aimed at: (a) fostering personal integrity and meaningful learning in each individual; (b) promoting productive communications and relations between diverse individuals and communities; (c) constructing environments that are responsive to human needs at the individual, dyadic, group, and systemic levels, and (d) transforming social contexts in ways that promote a greater sense of equity and justice. Topics covered include: the influence of culture, context and experience on interaction patterns, interactions between human and community development, organizational climate, and communication processes such as community building, conflict resolution, and negotiation. Students will engage in self-reflection, story telling, narrative interpretation, and an analysis of instructional and communication processes aimed at promoting individual and community development within and across social organizations. Curriculum programs -- such as those developed from the ideas of James Comer, Seymour Sarason, or John Goodlad -- will be studied as case examples of the impact that fostering development and communication can have on building a learning community.

#### **CS 754 CURRICULUM THEORIZING: MULTIPLE LENSES**

Curriculum Theorizing: Multiple Lenses. This course examines diverse curriculum discourses, historical as well as contemporary, within a broader context of issues related to education and schooling. It is designed to engage students critically in the study of curricular frameworks, their assumptions, values, and implications for education, schooling, teaching and learning. Major topics include: frameworks for defining and conceptualizing curriculum and curricular visions; social, political, and historical contexts of curriculum construction; issues of gender, race, class ableness, and the media; the curriculum as socially constructed, and historically contextualized discourse(s) about what is and what should be taught. Particular content areas will be used as examples.

#### **CS 761 ASSESSING SCHOOL CURRICULUM**

This course develops a framework for assessing the content, characteristics, and outcomes of the curriculum in a school. The framework will include the collection, organization and analysis of both quantitative and qualitative measures of effective instruction. Particular attention will be given to local, state, and national standards for content, teaching and outcomes. Attention will also be given to the qualities of the lived experiences of students in school and thus to the unintended as well as intended outcomes of schooling. Each student will be expected to begin assessing the curriculum in his or her school and to outline a proposal for a more complete assessment of the school's curriculum.

#### **CS 764 YOUTH DEVELOPMENT, IDEOLOGY, CULTURE, AND SOCIETY**

This course examines the ideological significance of "youth" in societies characterized by structural inequalities of power based on class, race, ethnic capability, sexual and/or

gender relations of domination and subordination. Texts from a range of academic disciplines -- psychology, sociology, cultural studies, social work -- will be studied to show the influence these texts have had in shaping discourse about youth and youth development. The concept of 'youth' will be looked at as a system of statements that produce arguments about young people and that, through these arguments, represent young people as deviant, deficient, perverted or resistant. These metaphors for dealing with crisis in society will be critically analyzed. The course will aim at critical self reflection; students will be challenged to examine their own assumptions about youth.

#### **CS 774 ENGAGING IN CURRICULUM DELIBERATION**

This course engages students in systematic and collaborative deliberation on curriculum problems. A pattern for deliberation -- including situation analysis, problem discrimination and formulation, development of alternative courses of action, and anticipation of consequences -- will be developed, exemplified, and contrasted with other descriptions of curriculum development. The importance and role of alternative conceptions of learners, of situation, and of knowledge structures within disciplines will be emphasized. After engaging in stimulated deliberations, each student will be asked to examine the intellectual commitments underlying this approach to curriculum change, to reconsider his or her role as a curriculum leader in a school or other educational setting, and to develop realistic plans for engaging a particular school community in collaborative curriculum deliberation.

#### **CS 784 CURRICULUM AND PROGRAM DESIGN**

This course studies principles underlying the design of effective, coherent, and comprehensive instructional programs. Topics include: the design and organization of core courses of study and related curricular components; the associated staff development program; and alignment with local, state, and national mandates. Particular attention will be given to planning for diversity, including differences in learning styles, special needs, culture and language.

#### **CS 794 SPECIAL TOPICS IN CURRICULUM**

In order to assure that the program remains flexible, responsive to the needs of students, and inclusive of the areas of interest of both faculty and students, this variable topics course will provide an opportunity for critical examination of compelling topical issues related to education. Topics could include: issues in educational reform; special education; controversies in curricular discourse; current issues such as the education of homeless children; or legal and constitutional issues in education and schooling. The course will be conducted in a seminar format.

#### **CS 859 INDEPENDENT DISSERTATION RESEARCH: CURRICULUM STUDIES**

### **COMPUTER SCIENCE**

#### **CSC 396 PROGRAMMING IN JAVA I AND II (AVAILABLE TO GRADUATE STUDENTS ONLY)**

An intensive eight-credit-hour course in Java programming. Covers the same material as CSC 211 and CSC 212 together, with two class meetings each week.  
PREREQUISITE(S): Graduate standing required.

#### **CSC 410 PRINCIPLES OF COMPUTER SCIENCE**

PREREQUISITE: CSC 225

**CSC 411 COMPUTERS IN INFORMATION SYSTEMS AND TELECOMMUNICATIONS (SEE 98411, 9/95)**

**CSC 415 FOUNDATIONS OF COMPUTER SCIENCE**

Propositional logic, predicate logic, mathematical proofs and reasoning, induction, basic algorithms and asymptotic analysis, recurrence relations, basic graph theory and graph algorithms

**CSC 416 FOUNDATIONS OF COMPUTER SCIENCE II**

Implementation of data structures, including linked lists, stacks, queues, trees, balanced trees, hash tables, and graphs. Finite-state automata and grammars.

PREREQUISITE(S): CSC 212 and CSC 415.

**CSC 417 FOUNDATIONS OF COMPUTER SCIENCE III**

Hash table data model; self-balancing trees; set data model; regular expressions; context-free grammars; finite state automata. (PREREQUISITE(S):CSC 416).

**CSC 420 DISCRETE STRUCTURES**

PREREQUISITE: MAT 140

**CSC 423 DATA ANALYSIS AND REGRESSION**

Multiple regression and correlation, residual analysis, analysis of variance, and robustness. These topics will be studied from a data analytic perspective, supported by an investigation of available statistical software. PREREQUISITE(S): CSC 323 or consent of instructor.

**CSC 424 ADVANCED DATA ANALYSIS**

Topics chosen from among discriminant analysis, principal components analysis, factor analysis, and non-parametric statistics. PREREQUISITE(S): CSC 423 or consent of instructor.

**CSC 426 VALUES AND COMPUTER TECHNOLOGY**

The impact of computerized technologies on society with particular attention paid to the ethical issues raised by these social effects. The course will require all of Ph.D. students research leading to a paper of publishable quality. Techniques for this type of research and writing will be discussed. An oral presentation of the research of that paper will also be required. PREREQUISITE(S): Ph.D. status or consent of instructor.

**CSC 427 SOFTWARE QUALITY**

**CSC 428 DATA ANALYSIS FOR EXPERIMENTERS**

The analysis of experiments in the computing science with special emphasis on the use of statistical software and interpretation of generated output. PREREQUISITE(S): CSC 423.

**CSC 430 OBJECT ORIENTED MODELING**

**CSC 431 FORMAL SOFTWARE SPECIFICATION AND DEVELOPMENT I**

**CSC 440 CRYPTOLOGY**

Introduction to the methods of cryptography and cryptanalysis. Topics include classical cryptography (codes, monoalphabetic and polyalphabetic substitution ciphers, transposition ciphers), modern block ciphers (such as DES, AES), and public key

cryptography (such as RSA). Optional topics include zero-knowledge protocols, information theory, coding theory, error-correcting codes, steganography, stream ciphers, hashing algorithms, quantum cryptography, elliptic curve cryptography, and history. PREREQUISITE(S): CSC 211 and CSC 415

#### **CSC 442 DATA STRUCTURES**

PREREQUISITE: CSC 410

#### **CSC 444 AUTOMATA THEORY AND FORMAL GRAMMARS**

An introduction to the most important abstract models of computation and their applications: finite state machines and pushdown automata. Explores the relationship between regular expressions and formal expressions and automata. PREREQUISITE(S): CSC 415.

#### **CSC 445 COMPUTER ARCHITECTURE**

PREREQUISITE: CSC 345; 420 Recommended

#### **CSC 446 COMPUTER OPERATING SYSTEM**

#### **CSC 447 CONCEPTS OF PROGRAMMING LANGUAGES**

Formal methods of syntactic specification of programming languages. Various semantic aspects of modern programming languages: scoping, binding, and parameter passing. Modularity and abstraction mechanisms of modern programming languages. Typing and polymorphism. Exception handling and concurrency. Declarative programming languages. Comparison of modern programming languages and paradigms. PREREQUISITE(S): CSC 416.

#### **CSC 448 COMPILER DESIGN**

Design and structure of high level languages. Lexical scan, top down and bottom up syntactic analysis. Syntax directed translation and LR(k) grammars. PREREQUISITE(S): CSC 447 or consent.

#### **CSC 449 DATABASE TECHNOLOGIES**

This is a graduate course in databases that introduces the principals and issues in database design and implementation. Topics covered include: conceptual database modeling, logical designs using the relational database model, relational algebra, implementation techniques using query languages, functional dependencies, normalization, and physical design and indexing structures. PREREQUISITE(S): CSC 415 or CSC 212 or CSC 224.

#### **CSC 451 DATABASE DESIGN**

Design methodologies. Requirement formulation and analysis, conceptual design, implementation design, physical design. Emphasis will be on data modeling techniques. Class team projects include the design of a complete database structure and implementation of design tools. PREREQUISITE(S): Graduate Standing.

#### **CSC 452 DATABASE PROGRAMMING**

Programming in large-scale relational database environment using host languages. Design and implementation of on-line applications. Topics covered in this course include: database programming using open architectures, embedded query languages, dynamic query language, procedural extension of query languages, stored procedures, transaction management, and introduction to extensible markup data definition and retrieval languages. PREREQUISITE(S): CSC 449 and (CSC 212 or CSC 224).

**CSC 453 CLIENT/SERVER DATABASE APPLICATION DEVELOPMENT**

This course covers the following topics: differences between call level interfaces and embedded SQL, layered architecture of the environments (driver managers, drivers, configuration of data sources), how the architecture of the API s achieve database independence, categories of API functions (e.g., metadata, data manipulation and transaction management). Students will develop database applications in a client/server environment by using Visual Basic and ODBC as well as Java and JDBC. PREREQUISITE(S):CSC 449 and CSC 260.

**CSC 454 DATABASE ADMINISTRATION AND MANAGEMENT**

This course is designed to give students a comprehensive foundation in database administration and management. The course provides a conceptual understanding of the database architecture and how its components work and interact with one another. Topics covered in this course include: database architecture, capacity planning, installation and maintenance, network configuration, security management, utilities and tools, industry standards and guidelines, database management techniques and practices. PREREQUISITE(S): CSC 449.

**CSC 455 SOFTWARE DEVELOPMENT MODELS****CSC 456 FOUNDATIONS OF INTELLIGENT DATABASES**

An introduction to the use of logic and deduction in databases and artificial intelligence. Topics will include propositional logic, first order predicate calculus, resolution theorem proving, deductive retrieval and deductive databases, inference engines, logic programming, and truth maintenance systems. PREREQUISITE(S): CSC 415.

**CSC 457 EXPERT SYSTEMS**

A detailed study of the development of artificial intelligence-based expert systems applications. Students will use commercial expert systems packages to develop example applications programs. Topics will include frames and other knowledge-representation techniques, rule-based and case-based systems, inference, and model-based reasoning. PREREQUISITE(S): CSC 211 and 212 (or 224).

**CSC 458 SYMBOLIC PROGRAMMING**

Basic concepts of symbolic programming as embodied in the language LISP. Techniques for prototyping and building conceptually advanced systems in an environment that encourages procedural and data abstraction. Topics include basic programming techniques, symbolic expressions, recursion, advanced data and control structures, object-oriented programming in CLOS, and symbolic control of TCP/IP connections, MIDI sequencing, text-to-speech, and speech recognition. Assignments will focus on basic AI techniques, but the class is intended for anyone who will need to rapidly develop large complex systems. PREREQUISITE(S): CSC 211 and 212 (or 224).

**CSC 459 FILE MANAGEMENT AND ORGANIZATION**

PREREQUISITE: CSC 446

**CSC 460 TOPICS IN OPERATING SYSTEMS**

PREREQUISITE: CSC 446.

**CSC 465 SOFTWARE ENGINEERING I****CSC 466 SOFTWARE ENGINEERING II****CSC 467 SOFTWARE RELIABILITY**

**CSC 468 SOFTWARE MEASUREMENT**

**CSC 472 METAMATHEMATICS, LOGICAL DEDUCTION AND COMPUTERS**

**CSC 473 INFORMATION SYSTEMS FOR MANAGEMENT**

PREREQUISITE: CSC 203

**CSC 474 DECISION SUPPORT SYSTEMS**

**CSC 475 INFORMATION SYSTEMS ANALYSIS AND DESIGN**

**CSC 477 SOFTWARE AND SYSTEMS PROJECT MANAGEMENT**

**CSC 480 FOUNDATIONS OF ARTIFICIAL INTELLIGENCE**

This course will provide an in-depth survey of important concepts, problems, and techniques in artificial intelligence. A particular focus and a unifying theme in the course will be the concept of "intelligent agents." No previous knowledge of AI is necessary to take the course. The course is particularly suitable for graduate and advanced undergraduate students who want to gain the technical background necessary to build intelligent systems, or as a preparation for more advanced work in AI. The concepts and techniques learned in this course will be directly applicable to many other areas of computing sciences, including software design, distributed systems, databases, and information management and retrieval. PREREQUISITE(S): CSC 415 and 416.

**CSC 481 INTRODUCTION TO IMAGE PROCESSING**

The course is a prerequisite for more advanced Visual Computing (VC) courses and the students will be challenged to implement VC algorithms for real world applications. The topics covered in the course include: components of an image processing system and its applications, elements of visual perception, sampling and quantization, image enhancement by histogram equalization, color spaces and transformations, introduction to segmentation (Edge detection), and morphological image processing. PREREQUISITE(S): CSC415 or Calculus or Linear Algebra.

**CSC 482 APPLIED IMAGE ANALYSIS**

The course is meant to provide students with the basic techniques of image analysis and understanding required for the medical domain, military domain, new and emerging domains, and other fields of interest to the students. The topics covered in the course include: imaging modalities, 2D & 3D imaging, 2D & time-sequenced images, archiving, accessing and transmitting large images, optic flow, increased visual discrimination, segmentation, registration, diagnosis, feature extraction, and image visualization. PREREQUISITE(S): CSC 481.

**CSC 483 INFORMATION PROCESSING MANAGEMENT**

**CSC 484 INTRODUCTION TO COMPUTER VISION**

Edge detection. Image representation and description using low-level features. A sample of image segmentation techniques. Perceptual grouping. 2D shape representation and classification. Motion analysis and tracking. Prerequisites: CSC 481.

**CSC 485 NUMERICAL ANALYSIS**

Use of a digital computer for numerical computation. Error analysis, Gaussian elimination and Gauss-Seidel method, solution of nonlinear equations, function evaluation, approximation of integrals and derivatives, Monte Carlo methods.

PREREQUISITE(S): MAT 220 and a programming course.

**CSC 486 ADVANCED NUMERICAL ANALYSIS**

Theory and algorithms for efficient computation, including the Fast Fourier Transform. Numerical solution of nonlinear systems of equations. Minimization of functions of several variables. Sparse systems of equations and corresponding eigenvalue problems. PREREQUISITE(S): CSC 485.

**CSC 487 OPERATIONS RESEARCH I: LINEAR PROGRAMMING**

Linear Programming. The Linear Programming problem and its dual; the simplex method; transportation and warehouse problems; computer algorithms and applications to various fields. PREREQUISITE(S): MAT 220 and any introductory programming course.

**CSC 488 OPERATIONS RESEARCH II: OPTIMIZATION THEORY**

Optimization Theory. Integer programming; nonlinear programming; dynamic programming; game theory. PREREQUISITE(S): CSC 487.

**CSC 489 THEORY OF COMPUTATION**

Advanced topics in the mathematical foundations of computation. Topics may include random access and Turing machines, recursive functions, algorithms, computability and computational complexity, intractable problems, NP-complete problems. PREREQUISITE(S): CSC 444 or CSC 491.

**CSC 491 DESIGN AND ANALYSIS OF ALGORITHMS**

Methods of designing algorithms including divide-and-conquer, the greedy method, dynamic programming, backtracking, and NP-completeness and approximation algorithms. Emphasis on efficiency issues. PREREQUISITE(S): CSC 416.

**CSC 494 SOFTWARE METHODOLOGIES**

PREREQUISITE: CSC 465

**CSC 495 COMPUTER LOGIC DESIGN**

CROSS-LISTED AS CSC 395

**CSC 496 MICROPROCESSORS**

An introduction to the hardware and software aspects of microprocessors. Digital electronics, microprocessors, programming, interfacing. Laboratory work will involve hands-on work with microprocessor systems.

**CSC 497 INFORMATION THEORY**

An introduction to the basic concepts of information theory and coding theory. Measure of information, the fundamental theorem, Hamming, BCH, and other cyclic codes.

**CSC 498 DIGITAL SIGNAL PROCESSING**

Elements of circuit and signal theory, theory of modulation, mathematical basis of sampling and coding, principles of digital filtering. Applications to communications, process control, image and voice recognition, voice synthesis.

**CSC 502 GENETIC ALGORITHMS**

The basics of genetic algorithms, the schema theory of John Holland, advanced operators and genetic search, as well as applications, eg. genetic-based machine learning, parsing, expert system, etc. Students will work on a variety of projects based on the applications discussed in class. PREREQUISITE(S): CSC 491.

**CSC 503 PARALLEL ALGORITHMS**

Development, implementation, and applications of parallel algorithms. Models of parallel computation. Parallel sorting, searching and graph algorithms, as well as other parallel algorithms, will be studied and implemented on both simulated and actual parallel machines. PREREQUISITE(S): CSC 491.

**CSC 504 PARALLEL PROCESSING**

Specific multiprocessor architectures and how to implement various algorithms on each machine. Students will implement a fairly large project on a multiprocessor. The course will also introduce some compilation techniques, for a better understanding of the issues. PREREQUISITE(S): CSC 491.

**CSC 510 INTRODUCTION TO SYSTEMS PROGRAMMING**

PREREQUISITE: CSC 445, 446 Or Consent

**CSC 520 ADVANCED TOPICS IN DISCRETE STRUCTURES**

PREREQUISITE: CSC 420

**CSC 521 MONTE CARLO SIMULATIONS: ALGORITHMS AND APPLICATIONS**

CSC 521 is graduate level course about the use of random numbers in simulations. The course introduces the concepts of pseudo-random number generators, Monte Carlo techniques, Bootstrap errors and the Metropolis algorithm. The subject is explained through examples in a variety of fields including computer science, telecommunications, graphics, physics, bioinformatics and finance. The different problems are formulated in computational terms in a way accessible to students with different backgrounds. The course emphasizes similarities among the different examples rather than their differences. Examples include: network reliability, rendering, protein folding, option pricing, and criticality of nuclear reactors. This is a programming course. It requires knowledge of calculus, elementary statistics, and good programming skills in Java and/or C++. Prerequisites: CSC 323, CSC 212 or instructor's permission. CSC 415 is suggested but not required

**CSC 533 SOFTWARE VALIDATION AND VERIFICATION****CSC 535 FORMAL SEMANTICS OF PROGRAMMING LANGUAGES**

Methods of formal semantics. Lambda-calculus. Lattices and domains. Reflexive domains. Formal semantics of the lambda-calculus. Languages with state. Interpretation functions. Expressions and environments. Command and stores. Control structures and continuations. PREREQUISITE(S): CSC 447.

**CSC 536 MODELING FOR COMPUTER AIDED DESIGN**

Review of Bezier curves. Splines. NURBS. Catmull-Rom splines. Integer and adaptive methods of curve generation. Surfaces. User interface considerations for CAD systems. GIS support issues. PREREQUISITE(S): CSC 469.

**CSC 538 VISION SYSTEMS**

A survey of working vision systems such as bar code readers, handwriting readers, robotic navigation systems, target acquisition and tracking systems. PREREQUISITE(S): CSC 481 or CSC 584.

**CSC 545 ADVANCED COMPUTER ORGANIZATION**

Parallel, array and pipeline processors and other topics of current interest. PREREQUISITE(S): CSC 345.

**CSC 546 OPERATING SYSTEMS DESIGN**

A project/seminar oriented course examining the details of the design of operating systems. The ideas from CSC 446 will be extended and incorporated into the design details. PREREQUISITE(S): CSC 343.

**CSC 547 ADVANCED TOPICS IN PROGRAM LANGUAGES**

A project-based course on advanced topics related to programming languages and programming environments. The course does not have any formal exams or homework assignments, but participants are expected to read papers on current research, actively participate in discussions, and complete a significant course project. PREREQUISITE(S): Permission of the instructor.

**CSC 548 ADVANCED COMPILER DESIGN**

Emphasis on practical problems in implementing compilers, data flow analysis, code optimization, error analysis. Discussion of compiler generators. As a class project, students will write a compiler. PREREQUISITE(S): CSC 448.

**CSC 549 DATABASE SYSTEM IMPLEMENTATION**

This is an advanced database course that covers issues in DBMS implementation. Topics covered in this course include: physical data organizations, indexing and hashing, query processing and optimization, database recovery techniques, transaction management, concurrency control, and security. PREREQUISITE(S): CSC 449.

**CSC 550 OBJECT-ORIENTED DATABASES**

Introduction to object-oriented concepts: abstract data typing, inheritance, object identity. Architecture, modeling and design for object-oriented databases. Query languages, integrity, long-duration transactions, concurrency, recovery and versioning in object-oriented databases. Brief survey of commercial and research prototypes of object-oriented database management systems. PREREQUISITE(S): CSC 449.

**CSC 551 DISTRIBUTED DATABASE SYSTEMS**

Distributed database architecture, distributed database design, distributed query processing, query decomposition and optimization of distributed queries, distributed transaction management and concurrency control, distributed DBMS reliability, distributed database operating systems. Distributed multidatabase systems. Client/Server database systems. PREREQUISITE(S): CSC 449 and (DS 420 or DS 425 or TDC 425 or TDC 463).

**CSC 553 ADVANCED DATABASE CONCEPTS**

An introduction to advanced selected topics in databases. The topics include: intelligent and deductive databases, temporal databases, multimedia databases, spatial and geographic databases, fuzzy databases, mobile databases, data mining and data warehousing, as well as emerging issues and concepts in database design, implementation and management. PREREQUISITE(S): CSC 449.

**CSC 554 INFORMATION ENGINEERING****CSC 556 FOUNDATIONS OF ARTIFICIAL INTELLIGENCE**

A survey of the fundamental techniques used in artificial intelligence. Heuristic search, game playing, means-ends analysis and classical planning, constraint propagation, natural language understanding, and systems that learn. An introduction to intelligent interfaces, intelligent agents, and modeling human cognition with AI systems. PREREQUISITE(S): CSC 311 or CSC 416.

**CSC 560 ON-LINE SYSTEMS AND TELECOMMUNICATIONS**

PREREQUISITE: CSC 446 (cross-Listed: CSC 360)

**CSC 571 SOFTWARE MAINTENANCE****CSC 577 MANAGEMENT OF INFORMATION TECHNOLOGY****CSC 578 NEURAL NETWORKS AND MACHINE LEARNING**

A study of the basic structure of neural networks and how machines may learn. This will include analyses of decision trees, Bayesian learning, genetic algorithms, PAC, analytical and reinforcement learning. Neural networks to be studied include Hopfield, backpropagation, Kohonen, ART, and Neuro-Fuzzy. Students will explore current applications and design several learning systems. No prior background in artificial intelligence is assumed. PREREQUISITE(S): MAT 220 or MAT 262 or MAT 151.

**CSC 579 NEURAL NETWORKS II**

Advanced Neural Network Architectures: Kohonen Networks, Counter Propagation Networks, Bi-Directional Associative Memories As Well As Art1 And Art2 Networks. Professional Neural Network Development Tools Will Be Used Throughout The Course. There Will Be A Project. (prereq) Csc 578 And Mat 150, 151 Or 145.

**CSC 580 ARTIFICIAL INTELLIGENCE PROGRAMMING**

System Implementation, Using The Powerful Procedures And Structures Of Modern Ai Such As: Slot And Filler Databases, Unification Pattern Matching, Heuristic Search, Deductive Information Retrieval, Procedures As Data, Case-Based Reasoning, Natural Language Understanding, Logic Programming, Discrete Networks, And Constraint Satisfaction. (prereq) Csc 458.

**CSC 582 MACHINE LEARNING**

An introduction to computer systems that learn. Classification methods, decision-tree induction methods, learning concepts from examples, learning heuristics, learning by analogy, explanation-based and case-based learning. Cognitive models. PREREQUISITE(S):CSC 456.

**CSC 583 NATURAL LANGUAGE PROCESSING**

Introduction to computer understanding of natural (human) languages. Topics include knowledge representation, syntactic analysis and grammars, parsing, semantic interpretation, discourse analysis, text generation, and machine translation. An overview of several existing natural language processing systems. PREREQUISITE(S): CSC 418.

**CSC 584 COMPUTER VISION**

Advanced image segmentation techniques. 2D and 3D shape representation and description. 3D shape reconstruction from single 2D images. Structure reconstruction from multiple views (stereo and motion). Model-based object recognition. Knowledge-based image understanding. Prerequisites: CSC 484.

**CSC 585 KNOWLEDGE REPRESENTATION**

Techniques for symbolic representation of knowledge in artificial intelligence and knowledge-based systems. Topics will include propositional logic, predicated calculus, nonmonotonic logics, semantic networks and frames, conceptual dependencies and scripts, truth maintenance systems, and qualitative reasoning. PREREQUISITE(S): CSC 456.

**CSC 586 ADVANCED ARTIFICIAL INTELLIGENCE PROGRAMMING**

prerequisite: 580

**CSC 587 COGNITIVE SCIENCE**

A study of the relationships between our knowledge of human and computer intelligence. Levels of analysis of intelligent system, examples of cognitive models, and exposure to current publications, with an emphasis on those related to human computer interaction. Students will participate in the design and testing of models of human intelligence, both experimentally and using computer models.

PREREQUISITE(S): CSC 416 or HCI 460 or consent of instructor.

**CSC 588 KNOWLEDGE REPRESENTATION II**

prerequisite: CSC 585

**CSC 589 TOPICS IN DATABASE**

This is an independent study course. PREREQUISITE(S): Consent of the instructor.

**CSC 590 TOPICS IN USER INTERFACES**

This is an independent study course. May be repeated for credit. PREREQUISITE(S): Completion of the corresponding visual computing core sequence or consent of instructor.

**CSC 591 TOPICS IN ALGORITHMS**

An in-depth discussion of one or more of the following topics: algorithms for integer operations, polynomial arithmetic including applications of the fast Fourier transform, matrix operations, pattern matching algorithms, proving lower bounds on the complexity of algorithms, parallel algorithms, approximation algorithms.

PREREQUISITE(S): CSC 491.

**CSC 592 TOPICS IN COMPUTER VISION AND PATTERN RECOGNITION**

This is an independent study course. May be repeated for credit. PREREQUISITE(S): Completion of the corresponding visual computing core sequence or consent of instructor.

**CSC 594 TOPICS IN ARTIFICIAL INTELLIGENCE**

This is an independent study course. PREREQUISITE(S): Consent of the instructor.

**CSC 598 TOPICS IN DATA ANALYSIS**

This is an independent study course. PREREQUISITE(S): Consent of the instructor.

**CSC 599 TOPICS IN COMPUTER SCIENCE**

Independent study form required. PREREQUISITE(S): Consent of instructor.

**CSC 601 MASTER'S RESEARCH CONTINUATION**

Non-credit. This course is intended for master's degree students who have completed all course registration requirements and who are regularly using the facilities of the University for study and research, thesis or project completion. These students are required to be registered in this course each quarter of the academic year until all requirements have been completed. PREREQUISITE(S): Completion of required courses. Independent Study form required.

**CSC 610 COMPUTER SCIENCE I**

An introduction to structured programming using PASCAL. Topics include: elementary data types, program control structures, character strings, array processing, procedures

and functions, and an introduction to user-defined data types.

**CSC 611 PROGRAMMING IN JAVA I**

Introduction to object-oriented programming using Java. Topics include variables, data types, control structures, arrays, method invocation and parameter passing, predefined classes and programmer-defined classes. Introduction to Java interfaced and inheritance. Simple graphical user interfaces, events, and listeners.

**CSC 615 INTRODUCTION TO STRUCTURED PROGRAMMING USING C**

(Crosslist 215)(coreq Mat140)

**CSC 621 PROGRAMMING IN JAVA I**

Introduction to object-oriented programming using Java. Topics include variables, data types, control structures, arrays, method invocation and parameter passing, predefined classes and programmer-defined classes. Introduction to Java interfaces and inheritance. Simple graphical user interfaces, events, and listeners.

**CSC 622 PROGRAMMING IN JAVA II**

Intermediate object-oriented programming using Java. Implementation of programmer-defined classes including stacks and queues. Java collection classes. Introduction to class diagrams. Exception handling. Simple network programming including applets, JDBC, and URL access. PREREQUISITE(S): CSC 611

**CSC 624 JAVA FOR PROGRAMMERS**

Object-oriented programming in Java. Simple graphical user interfaces, events, and listeners. Implementation of programmer-defined classes including stacks and queues. Java collection classes. Introduction to class diagrams. Exception handling. Simple network programming including applets, JDBC, and URL access. PREREQUISITE(S): Experience in at least one high-level programming language

**CSC 630 COMPUTERS IN EDUCATION**

An introduction to computers in education. A survey of software and hardware available for educational purposes. Hands-on experience with microcomputers. How to evaluate educational software.

**CSC 640 TEACHING COMPUTER SCIENCE**

This course guides students to identify, evaluate and assimilate pedagogical techniques (instruction and assessment) to teach Computer Science (CS), with particular attention to various implementations of cooperative learning strategies. Students develop, evaluate, critique and deliver a learning unit on fundamental aspects of CS. Students learn how to structure, teach and assess an Advanced Placement CS course according to the current guidelines of the College Board. They also learn to identify, locate and evaluate various resources (publications, web resources, dedicated software, and professional societies) that enrich their role as educators. Throughout the course attention is given to the diversity of learning styles and special needs of students within the CS curriculum. N.B. For students enrolled in the Teaching and Learning Graduate program offered by the School of Education (SOE), and for students seeking certification for grades 9-12 or 5-12, this course requires 35 clinical hours of type II in a local high school according to the specification of the SOE Student Handbook. PREREQUISITE(S): CSC 313 or CSC 416 or instructor permission.

**CSC 670 COMPUTER-ASSISTED INSTRUCTION**

Study and analysis of the use of the computer as an aid in instruction. Use of CAI languages such as PILOT. PREREQUISITE(S): CSC 630.

**CSC 671 QUANTITATIVE COMPUTING WORKSHOP**

Quantitative computing background needed for graduate study complemented with application to useful problems using appropriate software tools.

**CSC 672 DATA ANALYSIS WORKSHOP**

Statistical background needed for graduate study complemented with experience in data analysis using SAS. PREREQUISITE(S): CSC 671 or equivalent.

**CSC 680 PROGRAMMING WITH LOGO**

An introduction to LOGO, a powerful yet easy-to-learn language that both adults and children can use to express ideas.

**CSC 690 RESEARCH SEMINAR**

Readings and discussion on current research topics. PREREQUISITE(S): Consent of the instructor.

**CSC 696 MASTER'S PROJECT**

(4 credit hours) Students may register for this course only after their advisor has approved a written proposal for their project. PREREQUISITE(S): Consent of advisor. Independent study form required.

**CSC 697 GRADUATE INTERNSHIP**

In cooperation with local employers, the graduate program offers students the opportunity to integrate their academic experience with on-the-job training in computer related work areas. This course is offered for one credit and admission to the program requires consent of a Student Services Advisor. International students may complete curricular practical training through this class.

**CSC 698 MASTER'S THESIS**

(2 credit hours) Students may register for this course only after their advisor has approved a written proposal for their thesis. Students must continue to register for this course every quarter after their first registration in it until they complete their project or thesis to the satisfaction of their advisor. They earn two hours of credit for each such registration but only four hours of credit will apply for degree credit. PREREQUISITE(S): Consent of advisor.

**CSC 699 RESEARCH**

PREREQUISITE(S): One to 12 hours per quarter. A total of 12 hours is required.

**CSC 701 RESIDENT CANDIDACY CONTINUATION**

Non-credit. Students admitted to candidacy for the doctoral degree who have completed all course and dissertation registration requirements and who are regularly using the facilities of the University for study and research are required to be registered each quarter of the academic year until the dissertation and final examination have been completed. PREREQUISITE(S): Admission to Candidacy. Independent Study form required.

**CSC 702 NON-RESIDENT CANDIDACY CONTINUATION  
(PREREQUISITE:ADMISSION TO CANDIDACY)**

Non-credit. This registration provides for doctoral candidates who have been admitted to candidacy who are not in residence and need only occasional use of University facilities, including the libraries. PREREQUISITE(S): Admission to Candidacy. Independent Study form required.

## **DESIGN**

### **DES 530 MFA I SPEECH**

### **DES 541 PRINCIPLES OF DESIGN FOR DIRECTORS**

### **DES 542 PRINCIPLES OF DESIGN FOR DIRECTORS**

### **DES 543 PRINCIPLES OF DESIGN FOR DIRECTORS**

### **DES 571 DESIGN PRODUCTION PRACTICE: GRADUATE I**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, construction, and running. (prereq)

### **DES 572 DESIGN PRODUCTION PRACTICE: GRADUATE I**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, construction, and running. (prereq)

### **DES 573 DESIGN PRODUCTION PRACTICE: GRADUATE I**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, construction, and running. (prereq)

### **DES 599 INDEPENDENT STUDY**

### **DES 641 THEATRICAL COLLABORATION (PREREQ: OPEN TO 3RD & 4TH YR STUDENTS & MFA STUDENTS)**

Theatrical Collaboration (3 quarter hours) An investigation, through research and discussion, of the conceptual problems of physically mounting specific, assigned scripts from the classic and modern theatre, covering a broad stylistic range. Students will submit proposals for designs and justify their ideas through literary and pictorial research. The directorial and collaborative problems of arriving at a production concept, up to, but not including fully-realized design documentation, is emphasized through a series of projects. PREREQUISITE(S): Open to 3rd and 4th year BFA Lighting, Scenery, Costume Design and Dramaturgy students, in addition to MFA students.

### **DES 642 THEATRICAL COLLABORATION (PREREQ: OPEN TO 3RD & 4TH YEAR STUDENTS AND MFA STUDENTS)**

Theatrical Collaboration (3 quarter hours) An investigation, through research and discussion, of the conceptual problems of physically mounting specific, assigned scripts from the classic and modern theatre, covering a broad stylistic range. Students will submit proposals for designs and justify their ideas through literary and pictorial research. The directorial and collaborative problems of arriving at a production concept, up to, but not including fully-realized design documentation, is emphasized through a series of projects. PREREQUISITE(S): Open to 3rd and 4th year BFA Lighting, Scenery, Costume Design and Dramaturgy students, in addition to MFA students.

### **DES 643 THEATRICAL COLLABORATION (PREREQ: OPEN TO 3RD AND 4TH YEAR STUDENTS AND MFA STUDENTS)**

Theatrical Collaboration (3 quarter hours) An investigation, through research and discussion, of the conceptual problems of physically mounting specific, assigned scripts from the classic and modern theatre, covering a broad stylistic range. Students will submit proposals for designs and justify their ideas through literary and pictorial research. The directorial and collaborative problems of arriving at a production concept, up to, but not including fully-realized design documentation, is emphasized through a series of projects. PREREQUISITE(S): Open to 3rd and 4th year BFA Lighting, Scenery, Costume Design and Dramaturgy students, in addition to MFA students.

**DES 671 DESIGN PRODUCTION PRACTICE: GRADUATE II**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, and running. (prereq)

**DES 672 DESIGN PRODUCTION PRACTICE: GRADUATE II**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, and running. (prereq)

**DES 673 DESIGN PRODUCTION PRACTICE: GRADUATE II**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, and running. (prereq)

**DES 690 INTERNSHIP**

The internship provides the student with an opportunity to learn by working with experienced professionals in an area related to his or her area of study at The Theatre School.

**DES 741 THESIS PROJECT IN DESIGN**

Nine quarter hours. The production of the MFA thesis, consisting of portfolio and manuscript, under the supervision of the advisor. (prereq)

**DES 742 THESIS PROJECT IN DESIGN**

Nine quarter hours. The production of the MFA thesis, consisting of portfolio and manuscript, under the supervision of the advisor. (prereq)

**DES 743 THESIS PROJECT IN DESIGN**

Nine quarter hours. The production of the MFA thesis, consisting of portfolio and manuscript, under the supervision of the advisor. (prereq)

**DES 771 DESIGN PRODUCTION PRACTICE: GRADUATE III**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, running. (prereq).

**DES 772 DESIGN PRODUCTION PRACTICE: GRADUATE III**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, running. (prereq).

**DES 773 DESIGN PRODUCTION PRACTICE: GRADUATE III**

Six quarter hours. To be taken by all design and technical students. Design-area duties include practical work on production designing, constructing, painting, running.

(prereq).

## **DISTRIBUTED SYSTEMS**

### **DS 420 FOUNDATIONS OF DISTRIBUTED SYSTEMS I**

An introduction to distributed systems. Topics may include: architecture of distributed systems; networking; datagram-oriented and stream-oriented protocols; network programming (for example, the sockets API); remote procedure call and remote method invocation; processes and threads; code migration; software agents; naming of non-mobile and mobile entities; cryptography and security.

PREREQUISITE(S): PREREQUISITE(S): CSC 374 and CSC 383.

### **DS 421 FOUNDATIONS OF DISTRIBUTED SYSTEMS II**

An intermediate course on distributed systems. Topics may include: clock synchronization; mutual exclusion; distributed transactions; consistency models; distribution and consistency protocols; failure models; achieving fault tolerance; distributed object-based systems; distributed file systems. PREREQUISITE(S): DS 420 and CSC 309.

### **DS 425 DISTRIBUTED SYSTEMS FUNDAMENTALS**

This course covers a variety of fundamental topics in distributed systems, including communication protocols, sockets, operating system support, threads, remote invocation, security in a distributed environment, time in a distributed environment, naming services, coordination and agreement and transactions. This course is intended as a service course. Students with the appropriate technical prerequisites should select DS420. PREREQUISITE(S): CSC 212 or CSC 224.

### **DS 432 CLUSTER COMPUTING**

This course examines architectural and programming issues of cluster programming. Cost/performance tradeoffs in architecture: memory hierarchy, I/O hierarchy, throughput, networking infrastructure. Symmetric multiprocessor machines. Programming schemes: distributed shared memory, tuple spaces, message passing frameworks, parallel virtual machines, computational neighborhoods. PREREQUISITE: DS 421.

### **DS 520 SYSTEM DESIGN AND IMPLEMENTATION WITH DISTRIBUTED OBJECT FRAMEWORKS**

This course will look in depth at the capabilities provided by Distributed Object Frameworks (such as CORBA) and how these capabilities make the design and implementation of distributed systems more efficient. Students will gain familiarity with the concepts involved (including distributed object references, naming services, error handling, and interoperability) by designing and implementing a system of distributed objects within such a framework. PREREQUISITE(S): DS421 or SE550

### **DS 575 INTELLIGENT INFORMATION RETRIEVAL**

Examination of the design, implementation, and evaluation of information retrieval systems. The focus is on the underlying retrieval models, algorithms, and system implementations. Also examined is how an effective information search and retrieval is interrelated with the organization and description of information to be retrieved. Topics include: automatic indexing; thesaurus generation; Boolean, vector-space, and probabilistic models; clustering and classification; information filtering; distributed IR

on the WWW; intelligent information agents; IR system evaluation; information visualization; and natural language processing in IR. Throughout the course, current literature from the viewpoints of both research and practical retrieval technologies both on and off the World Wide Web will be examined. PREREQUISITE(S): (CSC 374 and CSC 383) OR Permission of Instructor.

#### **DS 591 DISTRIBUTED ALGORITHMS**

Design and analysis of algorithms for solving problems arising in distributed computing, such as resource allocation, distributed agreement, and management of shared data. Distributed computation models and their relationships: synchronous vs. asynchronous vs. partially synchronous, shared memory vs. network models. Algorithms for leader election, graph problems, mutual exclusion, and synchronization in reliable and unreliable networks will be covered. PREREQUISITE(S): CSC 491.

#### **DS 594 DISTRIBUTED SYSTEMS PROJECT**

Design, justification, implementation, and performance analysis of a distributed system. Team-based projects that use a variety of tools are encouraged. PREREQUISITE(S): DS 520, SE 450.

#### **DS 599 TOPICS IN DISTRIBUTED SYSTEMS**

This is an independent study course. (PREREQUISITE(S): Consent of instructor. Independent Study form required).

## **ECONOMICS**

#### **ECO 500 MONEY AND FINANCIAL SYSTEMS (FORMERLY GSB 513)**

This course examines both the role of money in the economy from a functional and macroeconomic perspective as well as the structure and function of the most important financial institutions and financial markets. Topics covered include the role of the Federal Reserve as monetary policymaker, interest rate and exchange rate determination, the relationship between money and economic activity, and the organization and importance of money markets, capital markets, markets for derivative securities, commercial banks and other intermediaries in a well-functioning financial system.

#### **ECO 505 ADVANCED MICROECONOMICS (PREREQ: ECO 555 OR EQUIVALENT OR ECO 380 OR EQUIVALENT)**

An advanced course in microeconomic theory. This course will present a systematic and rigorous analysis of price determination and the allocation of specific resources to particular uses. PREREQUISITE(S): ECO 555 or equivalent or ECO 380 or equivalent.

#### **ECO 506 ADVANCED MACROECONOMICS (PREREQ: ECO 509 OR EQUIVALENT)**

An advanced course in macroeconomic theory that examines the determination of income, employment, and prices, and their interrelations. Covers traditional Keynesian as well as alternative models of output, consumption, investment, money demand, inflation and unemployment. The dynamic character of income determination is emphasized, along with effects of government policy, economic institutions, and social goals. PREREQUISITE(S): ECO 509 or equivalent.

**ECO 509 BUSINESS CONDITIONS ANALYSIS**

This course teaches students how to use available economic data to assess business conditions. This is done by: (1) evaluating the sources and usefulness of data periodically released by government and private sources and (2) developing a macroeconomic framework that the student can use to analyze business conditions. Completion of this course will allow students to understand economic news and relate it to their business or job.

**ECO 510 ECONOMETRIC METHODS FOR BUSINESS ANALYSIS**

This course is designed to provide the student with more advanced methods in quantitative analysis. Topics covered include hypothesis testing, probability, correlation analysis and multiple regression. This course will be offered every Winter quarter.

**ECO 511 BUSINESS AND ECONOMIC FORECASTING (PREREQ: ECO 509 OR EQUIVALENT & ECO 510 OR EQUIVALENT)**

This course surveys a number of quantitative techniques commonly used to forecast business and economic variables. Emphasis will be on techniques, their relative strengths and weaknesses and real-world economic applications. Topics include smoothing techniques, regression and econometric analysis and Box-Jenkins time series. PREREQUISITE(S): ECO 509 or equivalent and ECO 510 or equivalent.

**ECO 512 APPLIED TIME SERIES AND FORECASTING (CROSS-LISTED AS MATH 512/MATH 358) (PREREQ(S): SEE DESCRIPTION)**

Theory and computer implementation of the Box-Jenkins Techniques with emphasis on forecasting business and industrial activity. PREREQUISITE(S): ECO 509 or equivalent and ECO 510 or equivalent.

Crosslisted as MAT 512.

**ECO 514 INDUSTRIAL ORGANIZATION (PREREQ: ECO 555 OR EQUIVALENT)**

This course is concerned with how the market system directs production decisions under varying deviations from the competitive environment. The links between market structure, conduct and performance are examined. Topics include determinants of market structure, various theories of imperfect competition, price discrimination, predatory pricing, and antitrust policy. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 515 GOVERNMENT REGULATION OF BUSINESS ACTIVITIES (PREREQ: ECO 555 OR EQUIVALENT)**

This course is designed to introduce students to an economic framework for analyzing the business policy implications of government regulation; and asks the question: "What is the appropriate level of government intervention of business activities?" During the first part of the course, existing government regulation of industries will be critically examined considering the full spectrum of "regulation" including: government enterprises; rate regulation of monopoly; quality regulation in competitive industries; and antitrust enforcement. Once students are comfortable using these analytical tools they will be asked to consider the impact of a change in regulation or the business environment on public policy concerns through analysis of current topics. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 516 PUBLIC ECONOMICS AND THE ECONOMICS OF TAXATION (PREREQ: ECO 555 OR EQUIVALENT)**

Application of microeconomic analysis to the role of government in society. The theoretical foundation for the design of an efficient and equitable tax and expenditure program is presented and the impact of such a program on the economy is explored through general equilibrium analysis. Students must have a solid foundation in basic

calculus. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 518 LABOR ECONOMICS AND LABOR RELATIONS (CROSS-LISTED AS MGT 518) (PREREQ: ECO 555 OR EQUIVALENT)**

(Cross-listed as MGT 518) A study of the American labor force: measurement, characteristics and behavior under changing income, employment and technology. An examination of recent labor market developments provides the basis for a critical analysis and appraisal of contemporary wage theory. Topics include changes in the labor force, unemployment, wage determination, the minimum wage, internal labor markets, productivity, discrimination, unions and collective bargaining. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 530 HISTORY OF ECONOMIC THOUGHT (PREREQ: ECO 555 OR EQUIVALENT)**

A study of the evolution of the science of economics. Emphasis is on the important contributions made to the field by the great thinkers, starting with the Physiocrats and extending to the work of contemporary institutional and post-Keynesian economists. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 539 COMPARATIVE ECONOMIC SYSTEMS (PREREQ: ECO 555)**

A study of the contrasting theories of socialism and capitalism. PREREQUISITE: ECO 555

**ECO 550 REGIONAL AND URBAN ECONOMICS (PREREQUISITE: ECO 555 OR EQUIVALENT)**

The course investigates the spatial character of an economic system. The first part of the course is concerned with theories in regional economics, including business and household location theory, urbanization, and regional development. The latter part of the course deals with urban economics, a specialized area concerned with the economic forces behind many urban problems. Topics include the economics of housing, transportation, poverty, crime and urban public finance. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 555 ECONOMICS FOR DECISION-MAKING**

This course provides students with an opportunity to apply microeconomic principles to managerial decision-making. These principles include those underlying the theories of consumer choice, production and cost as they relate to decisions made by firms and households. Specific topics include consumer demand analysis and estimation; elasticity; production theory; cost structure and estimation; profit maximization; and the effect of market structure on pricing, output and profit.

**ECO 557 INTERNATIONAL TRADE THEORY & POLICY (CROSS LISTED WITH IB 520) (PREREQ: ECO 555 OR EQUIVALENT)**

(Cross-listed with IB 520) Modern theories of international trade: classical theory of comparative advantage, factor proportions theory, factor price equalization, application of welfare economics to international trade, including regional economic integration, commercial policy and tariff problems. PREREQUISITE(S): ECO 555 or equivalent.

**ECO 558 INTERNATIONAL MACROECONOMICS (PREREQ: ECO 509 OR EQUIVALENT) (CROSS-LIST: IB 521)**

Analyzes traditional macroeconomic issues in a framework that allows for international trade and capital flows. PREREQUISITE(S): ECO 509 or equivalent.

**ECO 560 DEVELOPMENT OF THE AMERICAN ECONOMY (PREREQ: ECO 509 OR EQUIVALENT AND ECO 555 OR EQUIVALENT)**

This course describes the economic development of the United States by examining topics such as: colonial settlement patterns, the impact of the railroad, the development of the financial system and the Great Depression.

PREREQUISITE(S): ECO 509 or equivalent and ECO 555 or equivalent.

**ECO 561 ECONOMICS OF DEVELOPING COUNTRIES (CROSS LISTED WITH IB 525) (PREREQ: ECO 555 OR EQUIVALENT)**

Introduction to the economist's analytical skills applied to problems of developing and newly industrialized countries. Studies economic theory of development, development policy, and decision-making in the developing world; several case studies are examined.

PREREQUISITE(S): ECO 555 or equivalent.

**ECO 576 ADVANCED ECONOMETRICS (PREREQ: ECO 555 OR EQUIVALENT)**

The fundamental problems in the application of statistical procedures to econometric estimation will be studied: multicollinearity, identification, serial correlation, and nonhomogeneity of error variance. In addition, more sophisticated estimation techniques will be studied, e.g., reduced-form and multiple-stage regression techniques.

PREREQUISITE(S): ECO 555, 510, 375 or equivalent.

**ECO 599 SEMINAR IN ECONOMICS**

The course content depends upon the choice of the instructor. In recent years, the material chosen was literature explaining the nature of the science of economics, including the competing paradigms of the Austrian school, Schumpeter, Solidarism, Max Weber, Institutionalism and Post-Keynesianism.

**ECO 600 THESIS RESEARCH**

Thesis Research

**ECO 798 SPECIAL TOPICS**

Content and format of this course are variable. An in-depth study of current issues in economics. Subject matter will be indicated in class schedule.

**ECO 799 INDEPENDENT STUDY (PREREQ: WRITTEN PERMISSION)**

Available to graduate students of demonstrated capability for intensive independent work in economics. PREREQUISITE(S): Written permission.

**E-COMMERCE TECHNOLOGY**

**ECT 310 INTERNET APPLICATION DEVELOPMENT (AVAILABLE TO GRADUATE STUDENTS ONLY)**

Development of Internet-based applications using client and server-side scripting. Students will design and build an Internet application that accesses a database.

PREREQUISITE(S): CSC 212 or CSC 224. Graduate standing required.

**ECT 423 INTERNET MULTIMEDIA**

(Cross-listed as HCI 423) Design and prototyping of multimedia applications for delivery via the Internet. Survey of low-bandwidth file formats for images, sound, and animation. Bandwidth reduction techniques and tools. Discussion of client side and server side allocation of responsibility. Authoring tools. Students will create and

evaluate several small applications. PREREQUISITE(S): ECT 441.

### **ECT 425 TECHNICAL FUNDAMENTALS OF DISTRIBUTED INFORMATION SYSTEMS**

The course is an introduction to distributed information systems, including architecture of distributed information systems, networking, communication protocols, operating system support, remote method invocation, web service, and security in distributed information systems. PREREQUISITE(S): CSC212 and TDC361.

### **ECT 433 SURVEY OF WEB PROGRAMMING TECHNOLOGIES**

Survey of server-side scripting technology with emphasis on information search in a Web site. Projects include development of product catalogs and information search system of a Web site. For non-ECT and non-IS major only. PREREQUISITE(S): HCI 430 for HCI majors; Completion of Prerequisite phase for other majors.

### **ECT 435 SURVEY OF E-COMMERCE STRATEGIES AND TECHNOLOGY**

A survey of business models, value propositions, and e-commerce value chains for consumer-oriented, business-to-business, and collaborative e-commerce applications. Marketing, security, digital money, e-business infrastructure, basics of Web site engineering process, e-commerce technology and tools. This is a service course. Students with server-side programming skills should take ECT 455. Prerequisites: ECT 250 and IS 421.

### **ECT 441 USABILITY ISSUES FOR ELECTRONIC COMMERCE**

(Cross-listed with HCI 441) Design, prototyping and evaluation of e-commerce web sites. Context of usability in the project development life cycle. User/task analysis with emphasis on the first time and the infrequent user. Content organization. User testing with low fidelity prototypes. Issues of perceived privacy and security. Students projects involve design and/or evaluation of actual electronic commerce sites. PREREQUISITE(S): ECT 455.

### **ECT 455 E-COMMERCE WEB SITE ENGINEERING**

(Formerly ECT 555, cross-listed with HCI 513) An introduction to Web site engineering methods and processes to support e-commerce development. Web site engineering life cycle and user-centered design, including site goals, business models, value propositions, user analysis, information architecture, interface and navigation design, usability guidelines, database, testing, hosting strategies, usage metrics, and collaborative development. Technologies for e-commerce, shopping cart, digital payments, promotion strategies, and security issues. Students will build fully functional Web sites using database and client- and server-side technologies. Prerequisites: ECT 310 or HCI 430 or proficiency in programming.

### **ECT 480 INTRANETS AND PORTALS**

Intranet development methodology. Data warehousing concept and On-Line analytic processing (OLAP) for information management. Enterprise information portals (EIP). Transforming information into knowledge. Major applications involve: decision support, customer applications and content personalization for intranet. Students will conduct case studies and projects. PREREQUISITE(S): ECT 455.

### **ECT 481 INTERNET SUPPLY CHAIN MANAGEMENT**

This course examines system architectures, technologies, approaches, and infrastructure requirements in the context of supply chain systems. The focus is on the design, development and implementation of systems that facilitate the collaboration of an enterprise with its buyers and suppliers. Topics include development of messaging-based collaboration framework with web services. Students will design and implement a

collaborative extranet system component in team projects. PREREQUISITE(S): ECT 425.

### **ECT 556 ENTERPRISE ARCHITECTURE AND DESIGN**

This is an advanced course on the design and planning of enterprise architecture that enables intra-/multi-enterprise collaboration and interoperability. The emphasis is on the alignment between IT and organizational objectives through the integration of business architectures, data and information architecture, application architecture, technology architecture, interfaces and infrastructure. Topics include: frameworks, tools, and methodologies for enterprise architecture design; data and process modeling, application integration, implementation fundamentals, adaptability to changing organizational needs, and managing costs of implementation. Students will conduct case studies and develop architecture plans. Prerequisites: ECT 480 or consent.

### **ECT 557 PEER-TO-PEER TECHNOLOGY**

Peer-to-Peer (P2P) e-commerce is a paradigm for programming distributed e-commerce systems characterized by an increasing decentralization and autonomy of components. This course reviews the technical and business issues regarding P2P e-commerce. Topics include: P2P architecture and interoperability; P2P systems in use today; P2P content management issues; P2P collaboration applications: chat, white boards, file sharing, games, and synchronization; and P2P security and monitoring. Also addressed are: P2P application and business models for business to business and to consumer e-commerce; supply chain and collaborative planning, forecasting and replenishment; intellectual property concerns, management issues, and programming P2P applications. Prerequisites: ECT 425, ECT 480, and ECT 481.

### **ECT 565 MOBILE ENTERPRISE**

Mobile enterprise information systems are becoming increasingly complex and consist of existing systems with enabling middleware to achieve end-to-end enterprise mobile solutions. Mobile infrastructure performs content adaptation, data synchronization, bridging corporate and mobile messaging systems and support mobile information portals. The course will discuss web services oriented component architecture and system integration with Adaptive Application Architecture (AAA) with Wireless application gateway (WAG) and Multi-channel Access Gateways (MAG) supporting mobile and wireless access for heterogeneous devices. Such concepts as content distribution, connectivity and security, scalability and load balancing, device management will be discussed. Additional topics include Location-aware applications supporting mobile knowledge workers, business process for value contribution, and investment decisions on mobile technologies. Students will become familiar with mobile enterprise tool suites, mobile messaging delivery platforms, wireless Web portals. Students will be implementing mobile enterprise solution components. PREREQUISITE(S): Completed foundation phase.

### **ECT 582 SECURE ELECTRONIC COMMERCE**

This course studies technologies, architectures, and infrastructure for securing electronic transactions over nonproprietary networks. From the difference of paper documents and electronic documents to the implementation and maintenance of mechanisms that secure electronic documents with confidentiality, authentication, integrity, and non-repudiation, the focus is on the technologies of public key certificate, digital signature and internet security. Revised Prerequisites: ECT 425 or CS 390

### **ECT 583 ADVANCED SCRIPTING TECHNOLOGIES**

This course focuses on applying advanced scripting technologies in the design and development of large Web applications. Major topics include tiered application design, transacted Web applications, components, and Web services. Prerequisites: Proficiency

in programming.

**ECT 584 WEB DATA MINING FOR BUSINESS INTELLIGENCE**

An in-depth study of various aspects of data collection, data extraction, and knowledge discovery on the Web for e-business intelligence. The primary topics covered in the course are Web usage mining, Web content mining, and Web structure mining. Techniques and applications for mining e-commerce and Web usage data for site management, personalization and user profiling. Also addressed are privacy issues, collaborative and content-based filtering. Techniques for harnessing semi-structured data through techniques based on text mining, and meta-data representation and manipulation using XML. PREREQUISITE(S): CSC 383 and CSC 449.

**ECT 585 LEGAL ASPECTS OF E-COMMERCE**

This course is focused on how the law affects e-commerce. Topics include: electronic contracts, privacy issues associated with the use of the Internet, security issues including digital signatures, encryption and biometrics, intellectual property issues including trademark/domain name conflicts, copyrights, patents for business methods, taxation of internet transactions. Students will also gain an understanding of the issues involved in taking a company public (IPO), what information venture capitalists (VC) require in order to make decisions regarding financing startup companies. Prerequisite: ECT 455.

**ECT 586 CUSTOMER RELATIONSHIP MANAGEMENT TECHNOLOGIES**

An in-depth study of customer relationship management (CRM) technologies and applications. The special focus will be on the application of CRM technologies for managing the customer lifecycle across Internet and offline channels. Topics include customer identification, data integration, personalization technologies, web and email interaction techniques; sales force automation applications; call centers, field service and logistics applications; customer self-service and customer knowledge management technologies. Students will review and compare specific eCRM technologies and develop an Internet customer interaction system to support an eCRM strategy in group project. PREREQUISITE(S): ECT 455.

**ECT 587 MOBILE COMMERCE TECHNOLOGY**

This course examines leading wireless and mobile technologies for consumer and enterprise mobile commerce. Topics include wireless standards and technologies, the impact of bandwidth, platforms, form factors, mobile data services, security and transaction models. Wireless Web development issues concern Web synchronization, server-side content management, Wireless Application Protocol (WAP), Wireless Markup Language (WML), Handheld Device Markup Language (HDML), wireless user interface design, and wireless Web development tools. Mobile commerce applications include personalization, customer relationship management, mobile portals, and wireless enterprise solutions for business process and workflow. Students will develop mobile commerce applications. (PREREQUISITE(S): ECT 455).

**ECT 588 E-MARKETPLACE TECHNOLOGY**

This course concentrates on system development for online trading applications supporting complex interactions and transactions. Theoretical models of online information exchanges supporting negotiations such as: auctions, brokerages and exchanges/marketplaces will be discussed. Server/client side applications utilizing the models and distributed data access will be developed. Assignments will include system design as well as application development projects using Java. PREREQUISITE(S): ECT425.

**ECT 589 E-COMMERCE TECHNOLOGY CAPSTONE**

Designed for ECT majors and IS majors in ECT concentration, this course focuses on the deployment of Internet and enterprise technologies to support organization's e-business initiatives and collaborative commerce. Conducted in the format of seminar, case analysis, and dialogue with industry practitioners, this course requires students to actively participate in the study of models and approaches for e-business technology implementation and transformation. Topics include: the impact of Internet on industry structure and organizational transformation, enterprise application architecture, planning and implementation of technology and process to support an increasingly collaborative and integrated environment for e-commerce. Students have to complete an organization case study of e-business technology implementation to fulfill the requirement of this capstone course. This course should be taken at the conclusion of the ECT program. PREREQUISITE(S): Completion of all other required courses.

**ECT 590 E-BUSINESS TECHNOLOGY PRACTICUM**

This practicum course is aiming at exposing e-commerce students to distributed multi-platform, multi-language, multi-tier application development. Besides the heavy programming emphasis, the students will analyze design and implementation issues in such an environment. The course content involves design and development of an e-commerce system that includes business to business, customer facing, and information portal applications. Students will work on projects using different platforms and different programming languages in a lab environment. Topics include design of e-commerce systems, distributed database development, multi-web server environment development, application of distributed object technologies. This course fulfills the capstone/practicum requirement for ECT majors and should be taken at the conclusion of the program. Prerequisites: ECT 480 or ECT 481 or consent.

**ECT 596 TOPICS IN E-COMMERCE TECHNOLOGY**

Independent study form required. PREREQUISITE(S): Consent of instructor.

**ECT 690 MASTER'S PROJECT**

Readings and discussion on current research topics. Students may register for this course no more than twice. PREREQUISITE(S): Consent of the instructor.

**ECT 696 MASTER'S PROJECT**

Four credit hours. Students may register for this course only after their advisor has approved a written proposal for their project. Independent study form required. (PREREQUISITE(S): Consent of advisor).

**ECT 698 MASTER'S THESIS**

(2 credit hours) Students may register for this course only after their advisor has approved a written proposal for their thesis. Students must continue to register for this course every quarter after their first registration in it until they complete their project or thesis to the satisfaction of their advisor. They earn two hours of credit for each such registration but only four hours of credit will apply for degree credit. Independent study form required. PREREQUISITE(S): Consent of advisor.

**ENGLISH****ENG 401 HISTORY OF THE ENGLISH LANGUAGE**

A systematic study of the nature, history and usage of the English language. The course traces the language from its origin to its present status in England and America.

**ENG 402 HISTORY OF ENGLISH PROSE STYLE**

A survey of alternative theoretical approaches to the study of style, followed by intensive study of changes in the conventions of English prose from the Renaissance to the present.

**ENG 403 HISTORY OF RHETORIC I: CLASSICAL RHETORIC**

A survey of Greek and Roman rhetorical theory. Examines important definitions and discussions of rhetoric from Plato to Augustine, with attention to their implications for an understanding of the roles of rhetoric and writing in modern society.

**ENG 404 HISTORY OF RHETORIC II: RHETORIC IN THE RENAISSANCE AND EIGHTEENTH CENTURY**

A survey of developments in rhetoric from the 16th through the 18th centuries. Includes consideration of the vernacular rhetorics of the English Renaissance and analysis of connections between logic, rhetoric and literary criticism in the 18th century, with attention to implications for contemporary studies of literature, language and writing.

**ENG 405 HISTORY OF RHETORIC III: MODERN RHETORIC (FORMERLY ENG 407)**

A survey of theories and practices in 19th- and 20th-century rhetoric. Examines psychological, social and philosophical roots of contemporary rhetorics and the influence of scientific and literary studies on theories of discourse.

**ENG 406 MULTICULTURAL RHETORICS**

An introduction to written rhetoric and culture. Explores competing conceptions of culture and meanings of literacy, particularly as they relate to American literacy education.

**ENG 408 STYLISTICS**

Theory and practice in examining features of prose style, including linguistic, rhetorical and literary perspectives on style.

**ENG 409 TOPICS IN LANGUAGE, RHETORIC AND WRITING**

See schedule for current offering.

**ENG 411 CHAUCER**

Chaucer's works in context of his milieu.

**ENG 412 STUDIES IN ARTHURIAN LITERATURE**

Geoffrey of Monmouth, Wace, Layamon and Malory.

**ENG 413 STUDIES IN MEDIEVAL LITERARY FORMS**

Alternating emphasis on poetic, narrative and dramatic genres of the 14th and 15th centuries.

**ENG 416 STRUCTURE OF MODERN ENGLISH**

A systematic outline of modern English from both traditional and contemporary linguistic perspectives. Examines descriptive grammars, word and phrase structure, syntax and semantics, and formal issues of style and rhetoric.

**ENG 419 TOPICS IN MEDIEVAL LITERATURE**

See schedule for current offering.

**ENG 421 STUDIES IN ENGLISH RENAISSANCE PROSE**

Major prose works, including More's Utopia, Sidney's Apology for Poetry, Bacon's Essays, and Milton's Areopagitica.

**ENG 422 STUDIES IN ENGLISH RENAISSANCE POETRY**

Alternating emphasis on the English epic, the 16th-century lyric, and the 17th-century lyric.

**ENG 423 STUDIES IN ENGLISH RENAISSANCE DRAMA**

Tudor-Stuart drama, including works by Kyd, Marlowe, Jonson, Webster and Ford.

**ENG 426 THE ESSAY: HISTORY, THEORY, PRACTICE (FORMERLY ENG 488)**

Explores the history of the essay as genre from the Renaissance to the present, compares and contrasts literary essays with those written in most school settings, and offers students the opportunity to write their own extended essays on personal and professional topics.

**ENG 427 MILTON**

Major poems and selected prose.

**ENG 428 STUDIES IN SHAKESPEARE**

Study of selected plays through various critical and scholarly perspectives.

**ENG 429 TOPICS IN RENAISSANCE LITERATURE**

See schedule for current offering.

**ENG 431 STUDIES IN THE EIGHTEENTH CENTURY NOVEL**

Representative English prose fiction, including Defoe, Richardson, Fielding, Sterne and the Gothic novel.

**ENG 432 STUDIES IN RESTORATION AND 18TH CENTURY DRAMA**

Studies in the comedy of manners, sentimental comedy, heroic drama, and bourgeois tragedy.

**ENG 434 STUDIES IN RESTORATION AND EIGHTEENTH CENTURY AUTHORS**

Alternating emphasis on, for example, Dryden, Pope, Swift, Johnson or other authors.

**ENG 439 TOPICS IN RESTORATION AND EIGHTEENTH CENTURY LITERATURE**

See schedule for current offerings.

**ENG 441 STUDIES IN ENGLISH ROMANTIC PROSE**

Major Romantic nonfiction prose writers, including Burke, Coleridge, Hazlitt, DeQuincey and Lamb.

**ENG 442 STUDIES IN ENGLISH ROMANTIC POETRY**

Alternating emphasis on major Romantic poets, including Blake, Wordsworth, Coleridge, Byron, Shelley and Keats.

**ENG 443 STUDIES IN VICTORIAN PROSE**

Major Victorian nonfiction prose writers, including Carlyle, Newman, Ruskin, Mill, Arnold and Pater.

**ENG 444 STUDIES IN VICTORIAN POETRY**

Major Victorian poets, including Tennyson, Browning and Arnold.

**ENG 445 STUDIES IN 19TH CENTURY BRITISH FICTION**

Alternating emphasis on major novelists including Dickens, Thackeray, the Brontes, Eliot, Trollope and Hardy.

**ENG 446 NINETEENTH CENTURY IRISH LITERATURE**

This course surveys a broad range of literature from nineteenth-century Ireland. It reads literature within the social and historical context of its day; in terms of the formation of individual, social and national identities; and within today's debate about Ireland's status at the time.

**ENG 449 TOPICS IN 19TH CENTURY BRITISH LITERATURE**

See schedule for current offering.

**ENG 451 STUDIES IN THE MODERN BRITISH NOVEL**

Alternating areas of emphasis, including Woolf, Joyce, Forster and Conrad.

**ENG 452 STUDIES IN MODERN BRITISH POETRY**

Alternating areas of emphasis, including Yeats, Auden, Lawrence, Dylan Thomas, Eliot and Larkin.

**ENG 453 STUDIES IN MODERN BRITISH DRAMA**

Representative British and Irish plays from World War I to contemporary times.

**ENG 455 MODERN IRISH LITERATURE**

This course uses both historical and theoretical approaches to Irish literature written from the Literary Revival to the late twentieth century. It emphasizes the transition from a colonized to a postcolonial society and the slow validation of the voices of Irish women writers.

**ENG 456 CONTEMPORARY IRISH LITERATURE**

This course relates contemporary Irish literature to recent Irish history and to social and cultural change. It charts the ways in which patterns of individual, social and national identity have been challenged and renegotiated.

**ENG 459 TOPICS IN MODERN BRITISH LITERATURE**

See schedule for current offering.

**ENG 464 STUDIES IN AMERICAN AUTHORS**

Alternating emphasis on major writers, including Hawthorne, Melville, Poe, Whitman, Dickinson, Twain, Chopin, Crane, James, Wharton and Cather.

**ENG 465 STUDIES IN THE MODERN AMERICAN NOVEL**

Alternating emphasis on major 20th-century writers, including Fitzgerald, Hemingway, Stein, Faulkner, Steinbeck, Porter, Penn Warren, Bellow, O'Connor, Oates and Morrison.

**ENG 466 STUDIES IN MODERN AMERICAN POETRY**

Introduction to a wide range of twentieth-century American poetries, with alternating emphasis on modernists such as Frost, Eliot, Pound, Stevens, Williams, Moore, HD., Hughes, and Rukeyser as well as more recent figures and trends..

**ENG 467 STUDIES IN AMERICAN DRAMA**

American dramatists and dramatic movements.

**ENG 469 TOPICS IN AMERICAN LITERATURE**

See schedule for current offering.

**ENG 471 BIBLIOGRAPHY AND LITERARY RESEARCH**

Principles and methods of literary research.

**ENG 472 STUDIES IN LITERARY CRITICISM**

Study of the theoretical foundations of literary criticism, exemplified by major texts from ancient Greece to the present.

**ENG 474 TEACHING LITERATURE**

Prepares English teachers to teach literature at the secondary and college undergraduate levels. The course develops methods of teaching all literary genres, addresses problems in literacy, and focuses on the transactional nature of reading and writing.

**ENG 475 TOPICS IN LITERATURE**

See schedule for current offering.

**ENG 480 TEACHING WRITING**

Introduction to teaching composition at the secondary and college undergraduate levels. The course helps students develop methods of teaching composition based on modern theories of rhetoric, reading and language acquisition.

**ENG 482 WRITING CENTER THEORY AND PEDAGOGY (CROSS-LISTED AS ENG 395)**

Introduction to current theories and practices in writing instruction; prepares students to develop and administer writing centers and to work as writing consultants. (Writing Center practicum required. This four-credit-hour course will be offered over a two-quarter time span during the Autumn and Winter quarters only. See instructor for further information).

**ENG 483 COMPOSITION THEORY**

Explores the development of contemporary theories of written composition; focuses on contexts for writing, the writing process, and reader-writer relationships.

**ENG 485 TEACHING CREATIVE WRITING**

Prepares English teachers to teach creative writing at the secondary and college undergraduate levels. Models the planning and directing of effective workshops in poetry and fiction writing.

**ENG 486 DOCUMENT DESIGN**

A practical and theoretical examination of the relationship between text and graphics. Students will apply basic graphic principles to actual documents.

**ENG 487 TRAVEL WRITING**

Writing travel essays: history and forms of the literary travel essay; writing about travel for the book and magazine market.

**ENG 489 SCREENWRITING**

An introduction to the craft of screenwriting. Covers principles of plot, dramatic conflict, characterization, dialogue, and screenplay form. Students develop short dramatic and documentary screenplays.

**ENG 490 WRITING FOR MAGAZINES**

Covers the range of skills necessary for magazine writing. Discussion of the elements of style, humor, research, concept and imagery that characterize the literature of fact. Students investigate, compose and edit finished magazine articles to be submitted for publication.

**ENG 491 SCIENCE WRITING**

An introduction to the creative career of science writing. Students research, write, and market articles on such subjects as astronomy, genetics, health, and technology for newspapers, magazines, e-zines, and innovative journals. No prior science background required.

**ENG 492 WRITING FICTION (PERMISSION REQUIRED)**

A course in writing short stories. Emphasis is placed on class discussion of student writing.

**ENG 493 WRITING POETRY (PERMISSION REQUIRED) (CROSS-LISTED AS MLS 479)**

A course in writing and reading poetry. Emphasis is placed on class discussion of student writing.

**ENG 494 WRITING IN THE PROFESSIONS (CROSS-LISTED AS MLS 459 AND MPS 508)**

Improves writing skills useful in semi- and nontechnical professions; emphasis on style, tone, awareness of purpose and audience; effective memo, proposal and report writing.

**ENG 495 TECHNICAL WRITING**

An introduction to various aspects of technical writing, including readability, document design, editing and usability.

**ENG 496 EDITING**

An introduction to editing principles and practices in professional and technical fields.

**ENG 497 WRITING THE LITERATURE OF FACT (PREREQUISITE: ENG 490 OR PERMISSION)**

An advanced course in reading and writing true-life stories in the nonfiction tradition exemplified by such writers as Dickens, Agee, McPhee, and Didion.

**ENG 498 INDEPENDENT STUDY**

**ENG 499 THESIS RESEARCH**

**ENG 500 INDEPENDENT STUDY**

Written permission of supervising faculty member and of the program director is necessary before registration. Variable credit.

**ENG 501 THESIS RESEARCH**

Written permission of supervising faculty member and of the program director is necessary before registration. Limited to four credits.

**ENG 502 CANDIDACY CONTINUATION**

Non-credit. Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research. \$40.00 per quarter.

**ENG 509 INTERNSHIP (PREREQUISITE: WRITTEN PERMISSION)**

Internship (prerequisite: Written Permission)

**FOCUS AREA**

**FA 402 FACILITY PLANNING AND DESIGN**

**FINANCE**

**FIN 510 ADVANCED MONETARY THEORY AND POLICY (PREREQ: ECO 509 & FIN 555)**

This course is designed to provide the analytical tools for a critical examination of monetary and fiscal policies together with their impact on economic activity in general, and on the commercial banking system in particular. Problems involving interest rates, the value of money and qualitative portfolio changes are examined in detail in the light of current theoretical contributions. PREREQUISITE(S): ECO 509 and FIN 555.

**FIN 511 CONTEMPORARY ISSUES IN MONETARY AND FISCAL POLICY (PREREQ: FIN 510 OR FIN 513 & FIN 555)**

Contemporary issues in the areas of fiscal, monetary and debt management. Analyzed through intensive readings and discussions of technical journal articles and research papers. PREREQUISITE(S): FIN 510 or FIN 513 & FIN 555.

**FIN 512 COMMERCIAL BANKING (PREREQ: FIN 555)**

The purpose of the course is to analyze the role of commercial banks in the financial system. The present structure of banking will be studied with particular emphasis on the relationship between commercial banking practices and economic stabilization goals. Issues in bank asset management, liability management and capital adequacy will be presented. Finally, new dimensions in banking will be considered. PREREQUISITE(S): FIN 555.

**FIN 513 MONEY AND CAPITAL MARKETS (PREREQ: ECO 509 AND FIN 555)**

Money and capital markets; economic forces that influence them; appropriate strategies of financial managers in participating in these markets. PREREQUISITE(S): ECO 509 and FIN 555.

**FIN 523 INVESTMENT ANALYSIS (PREREQ: FIN 555)**

This course provides an overview of the investment environment for the institutional money manager. The market mechanism, market equilibrium, the relationship between risk and return and the valuation of various investment instruments are investigated. PREREQUISITE(S): FIN 555.

**FIN 524 FINANCIAL STATEMENT AND SECURITY ANALYSIS (PREREQ: FIN 555)**

This course develops financial analysis skills from the view of an outsider using a corporation's publicly available financial statements. Techniques such as commonsizing, ratio analysis, decomposition and the use of a comprehensive DuPont Model are used as a basis to teach analytical thought processes necessary to make projections for a company based on its financial statements. The use of spreadsheets as an analytical tool will be strongly emphasized. PREREQUISITE(S): FIN 555.

**FIN 525 PORTFOLIO MANAGEMENT (PREREQ: FIN 523 AND FIN 555)**

This course analyzes contemporary theories and techniques of security selection and management available to the institution portfolio manager. Significant literature which emphasizes the role of the modern portfolio manager in achieving diversification and client investment goals is reviewed and evaluated. PREREQUISITE(S): FIN 523 and FIN 555.

**FIN 526 ADVANCED TOPICS IN INVESTMENTS (PREREQ: FIN 523 & FIN 555)**

This course is designated to provide students with knowledge of fixed income securities and alternative investments such as real estate, venture capital and hedge funds. This knowledge will help prepare students to pass the fixed income and alternative investments sections of the CFA examinations. PREREQUISITE(S): FIN 523 & FIN 555.

**FIN 527 OPTIONS AND FUTURES (PREREQ: FIN 523)**

Development and application of the theory of option pricing. Emphasis is placed on the valuation of stock options using current valuation models. This course develops a fundamental understanding of the futures markets, including 1) the mechanics of the market, 2) hedging applications, 3) theory of futures market pricing, and 4) the relation between interest rate movements in the underlying markets and the associated futures markets. PREREQUISITE(S): FIN 523.

**FIN 528 VALUATION AND USE OF INTEREST RATE INSTRUMENTS (PREREQ(S): FIN 523, FIN 527 AND FIN 555)**

The first part of the course focuses on the valuation and risk management applications of mortgage securities, such as MPTs, CMOs and STRIPS. A demonstration of how to generate an arbitrage-free term structure is included. The second part of the course covers interest rate swap structures, their uses, and pricing. PREREQUISITE(S): FIN 523, FIN 527 and FIN 555.

**FIN 530 REAL ESTATE INVESTMENT AND FINANCE (PREREQ: FIN 555)**

Analysis of real estate investment opportunities and the characteristics that distinguish them from other assets. Emphasis is upon forecasting cash flows and estimating risk. Case analysis is an integral part of the course technique. PREREQUISITE(S): FIN 555.

**FIN 531 REAL ESTATE FINANCE (PREREQ: FIN 530 AND FIN 555)**

Analysis of private and public institutions involved in real estate finance. A critical study of institutional arrangements facilitating real estate investment and development. Analysis of yields and risk in mortgage lending. PREREQUISITE(S): FIN 530 and FIN 555.

**FIN 533 REAL ESTATE MARKET ANALYSIS AND VALUATION (PREREQ: FIN 555 AND FIN 530)**

Critical analysis of the appraisal process and its theoretical foundation. Market analysis techniques and valuation of income producing properties. Exploration of both basic and innovative approaches to value employing computer databases and information technology. PREREQUISITE(S): FIN 555, FIN 530.

**FIN 535 REAL ESTATE INVESTMENT (PREREQ: FIN 530 AND FIN 555)**

Analysis of different strategies available to real estate investors. Focus is on large-scale development and institutional investment portfolio decisions. The case method is an integral part of the course technique. PREREQUISITE(S): FIN 555 and FIN 530.

**FIN 551 PROBLEMS IN CORPORATE FINANCIAL POLICY (PREREQ: FIN 555)**

Theoretical and practical tools in financial decision-making are discussed using cases studies. Covers investment analysis as this relates to the risk and timing of cash flows, capital structure and dividend policy. PREREQUISITE(S): FIN 555.

**FIN 553 SPECIAL TOPICS IN CORPORATE FINANCE (PREREQ: FIN 555)**

The analytical methods and quantitative decision models applicable to special areas of corporate finance are examined and studied in this course. These topic areas could include current asset management, convertible bonds, warrants, lease financing, mergers and consolidations or other current financial issues. PREREQUISITE(S): FIN 555.

**FIN 555 FINANCIAL MANAGEMENT (PREREQUISITES: ACC 500 and ECO 555 or equivalent)**

A study of the major decision areas faced by the corporate financial manager and their relationship to the goals of the firm's owners. Specific topics include capital budgeting, capital structure and the cost of capital, dividend policy, and current asset management. PREREQUISITE(S): ACC 500 and ECO 555 or equivalents.

**FIN 558 MERGERS AND ACQUISITIONS**

This course focuses on the pragmatic issues and relevant research studies on mergers, acquisitions and corporate restructuring. The field of mergers and acquisitions continues to experience dramatic growth. Although many companies pursue and expansionary strategy that include mergers and acquisitions, many others rely on corporate restructuring to become more efficient, such as spin-offs, equity, carve-outs and divestitures. This course will also cover leverage buyouts, merger strategy, employee stock ownership plans, antitakeover measures and valuations of businesses, including the valuation of privately held firms. Prerequisite(s): FIN 555.

**FIN 562 RISK MANAGEMENT (PREREQ: FIN 555)**

This course addresses the basic financial and statistical techniques which enhance risk management decision-making. The objective of this course is to develop a fundamental analytic framework and to apply it to issues of concern to corporate or investment risk managers. PREREQUISITE(S): FIN 555.

**FIN 571 FINANCING NEW VENTURES (PREREQ: FIN 555)**

This course will focus on identifying, examining and evaluating various sources of original and growth capital. Emphasis will be on legal, financial and tax issues related to capital formation as well as specific problems experienced by the small-to-medium-sized firm undergoing rapid growth. Topics discussed will include financing startups, financial planning and strategy, going public, selling out and bankruptcy. A formal proposal for capital acquisition developed through field research will be required of each student. PREREQUISITE(S): FIN 555.

**FIN 581 THE PSYCHOLOGY OF FINANCIAL DECISION MAKING**

This course reviews current behavioral research on intuitive judgment, belief formation, risk attitudes, and emotion. The findings help to explain financial decisions made by individual investors, households and money managers. This course is a prerequisite for FIN 582 and FIN 583. It is especially useful for students who plan a career as financial

advisors.

**FIN 582 THE PSYCHOLOGY OF FINANCIAL MARKETS**

This course studies the behavior of world equity markets from a psychological perspective. Topics include equity portfolio management, investor sentiment, value and growth investing, market under- and overreaction to news and the quality of analysts' earnings forecasts and stock recommendations. Selected aspects of bond, derivative, and currency markets are also discussed. Prerequisite: FIN 581.

**FIN 583 BEHAVIORAL ASPECTS OF CORPORATE FINANCE**

This course asks how psychological, sociological and organizational forces shape the strategic investment, restructuring, and financing decisions made by top managers in corporations. Topics include capital budgeting, earnings management, investor relations, executive compensation and the role of corporate boards.

**FIN 595 INVESTMENT SEMINAR (PREREQ: PERMISSION OF INSTRUCTOR)**

Construction and management of an actual portfolio fund in a nine month seminar setting. Registration requires approval of the seminar director based on applications due in the Spring quarter. PREREQUISITE(S): Permission of instructor.

**FIN 596 REAL ESTATE SEMINAR (PREREQ(S): FIN 530, FIN 531 AND FIN 555)**

The objectives of this course are to identify current, researchable topics pertaining to real estate and for students to perform independent research on selected topics approved by the seminar professor. Meetings will be held on both a class and on an individual basis. Students will present both their proposals and the results of their preliminary investigations in class. A seminar research paper is required of each student. PREREQUISITE(S): FIN 530, FIN 531 and FIN 555.

**FIN 597 RESEARCH SEMINAR IN FINANCE (PREREQ: FIN 555)**

The objectives of this seminar will be to review authoritative current contributions in the finance field, identify and evaluate data sources and pursue an original investigation on a topic approved by the seminar professor. Students shall be near the end of the M.B.A. program before enrolling in this course. PREREQUISITE: FIN 555.

**FIN 617 CAPITAL MARKETS AND CORPORATION FINANCE I (PREREQS): FIN 523 AND FIN 555)**

This is the first course in a two-quarter sequence presenting the theoretical foundations of modern finance. Topics covered include financial price theory, the theory of financial management (capital structure, dividend policy and capital budgeting), an introduction to agency theory and an introduction to portfolio theory. PREREQUISITE(S): FIN 523 and FIN 555.

**FIN 618 CAPITAL MARKETS AND CORPORATION FINANCE II (PREREQ(S): FIN 553 AND FIN 617)**

The second course in a two-course sequence for students in the M.S.F. program. This course builds on the foundation set in FIN 617. Applications of financial theory, to financial management. PREREQUISITE(S): FIN 553 and FIN 617.

**FIN 662 FINANCIAL ENGINEERING AND RISK MANAGEMENT (PREREQ(S): FIN 617, FIN 618, FIN 527 & FIN 528)**

A case course in financial risk management and the choice and design of risk management tools. Students will solve cases involving the use of options, swaps and other derivative instruments by firms, investors, investment bankers. PREREQUISITE(S): FIN 617, FIN 618, FIN 527 & FIN 528

**FIN 697 RESEARCH SEMINAR IN FINANCE (PREREQ(S): FIN 617, FIN 618 & FIN 662)**

Will develop basic research skills and improve students' written and oral presentation skills. Students will present and critique research papers and develop their own research topics. PREREQUISITE(S): FIN 617, FIN 618 & FIN 662.

**FIN 798 SPECIAL TOPICS (PREREQ(S): DETERMINED BY INSTRUCTOR)**

Content and format of this course are variable. In-depth study of current issues in finance. Subject matter will be indicated in class schedule. Offered variably. PREREQUISITE(S): Determined by instructor.

**FIN 799 INDEPENDENT STUDY (PREREQUISITE(S): DETERMINED BY INSTRUCTOR)**

Available to graduate students of demonstrated capability for intensive independent work in finance. PREREQUISITE(S): Determined by instructor.

## **COMPUTER GRAPHICS**

**GPH 425 SURVEY OF COMPUTER GRAPHICS**

Expression of visual intent through geometry and procedure. A survey of basic 3D techniques, including interaction of light and color. Visual effects of rendering, texturing, and lighting algorithms. Procedural modeling techniques and an introduction to procedurally-based texturing and animation. PREREQUISITE(S): CSC 212 or equivalent

**GPH 436 FUNDAMENTALS OF COMPUTER GRAPHICS**

(Formerly CSC 436) An accelerated introduction to the graphics development environments and to graphical programming. Provides an in depth discussion of the basic mathematical language of computer graphics: vectors, transformations, homogeneous coordinates and their associated data structures. Advanced topics will include sampling theory and interpolation. Also provides a basic introduction to industry standards in graphics development, including specifying transformations and viewing parameters. PREREQUISITE(S): CSC 393 and MAT 150.

**GPH 438 COMPUTER ANIMATION SURVEY**

(Formerly CSC 438) Survey of methods used in computer animation. This course uses commercially available software packages to teach techniques for animation and digital video production. The techniques covered include storyboarding, key frame animation, audio and video editing. PREREQUISITE(S): GPH 469 or GPH 470.

**GPH 448 COMPUTER GRAPHICS SCRIPTING**

Covers the use of scripting to generate computer graphics and animation. Emphasis on the benefits and differences of scripting languages compared to conventional graphics programming. Using commercially available scripting environments, students will generate complex graphics and animations that would not be possible with the conventional user interface. PREREQUISITE(S): GPH 438.

**GPH 469 COMPUTER GRAPHICS DEVELOPMENT**

(Formerly CSC 469) Basic graphics architecture. Coordinate systems. Three-dimensional representations and transformations. Simple visible-surface algorithms. Introduction to illumination. Gouraud and Phong shading. Antialiasing. Texture

mapping and elements of animation. Students create a graphics package using a high-level graphics API such as OpenGL. PREREQUISITE(S): GPH 436

**GPH 536 SMOOTH SURFACE MODELING FOR GRAPHICS AND ANIMATION**

Parametric curves and surfaces. Continuity of curves and surfaces. Hermite, Bezier, B, and Catmull-Rom splines. Integer, adaptive and interactive generation of curves and surfaces. Surface subdivision. Quadric surfaces. Surface use in animations. PREREQUISITE(S): GPH 469.

**GPH 539 ADVANCED RENDERING TECHNIQUES**

(Formerly CSC 539) Texture and environment mapping. Shadows. Ray tracing. Radiosity. Advanced illumination models. Elements of animation. (PREREQUISITE(s): GPH 438 or GPH 469).

**GPH 560 MODELING SPACES**

The digital design and modeling of environmental spaces with attention to human use parameters. PREREQUISITE(S): any GPH 400-level course or consent of instructor.

**GPH 565 DESIGNING FOR VISUALIZATION**

Sources of graphical integrity and sophistication. Data-Ink maximization. Data density. The use of color to enhance features in data sets and the communication of information. Effective use of space and time. Use of 3D techniques to display multi-dimensional data. The use of isosurfaces and volumetric techniques to display features of data sets. Students will use a programmable system to produce their visualizations and will learn how to use procedural techniques to express graphical intent. (Only one of GPH 570 and GPH 565 may be taken for credit) Prerequisites GPH 448 and HCI 470

**GPH 570 VISUALIZATION**

(Formerly CSC 570) Reconstruction techniques. Voxel classification and isosurface generation. Spatial set operations. Projections of higher-dimensional data sets. Data feature enhancement. False color mapping. Survey of applications in science, engineering and medicine. PREREQUISITE(S): GPH 469.

**GPH 572 PRINCIPLES OF COMPUTER ANIMATION**

(Formerly CSC 572) This course will cover a range of topics in introductory 3D Computer Animation. Topics covered will include key framing, interpolation, hierarchies, inverse kinematics, particle systems, and the basics of physically based simulation and modeling. PREREQUISITE(S): GPH 469.

**GPH 574 COMPUTER GAMES**

(Formerly CSC 574) Concept and character development, storyboarding, prototyping, testing and implementation. Interaction techniques. Optimization of lighting and texturing. Discussion of relevant hardware and peripherals. PREREQUISITE(S): GPH 469.

**GPH 575 ADVANCED GRAPHICS DEVELOPMENT**

Survey of standards and current modular technology for 2D and 3D graphics software development. Use of software development toolkits to create "plug-ins" and other modularly organized functionality enhancements for selected commercially available graphics packages. PREREQUISITE(S): GPH 448 and GPH 438.

**GPH 576 ARTIFICIAL INTELLIGENCE IN COMPUTER GAMES**

The course introduces Artificial Intelligence (AI) topics applied to computer games. No previous knowledge of AI will be assumed. The course concentrates of development of

applications that guide game objects in 2D (3D) space. Basic AI architectures and techniques are introduced. Implementation of a game AI engine will be discussed.  
Prerequisites: GPH 469

#### **GPH 595 TOPICS IN GRAPHICS**

May be repeated for credit. PREREQUISITE(S): Permission of instructor.

### **GRADUATE SCHOOL OF BUSINESS**

#### **GSB 450 PROFESSIONAL PRESENTATION PRACTICUM (PREREQ: GRADUATE STANDING)**

This is a non-credit course required of all students enrolled in the M.B.A, M.S.A, M.Acc and M.S/M.I.S. program and should be taken in the early portion of the program. There are no waivers of this requirement. The course gives students the opportunity to develop skills necessary to deliver clear, interesting and effective presentations. Attention will be directed to the techniques of analyzing an audience, organizing one's presentation, using visuals and handling challenging questions. The methods of instruction will include practice sessions, videotaping, group feedback, self-assessment, with review and coaching on an individual basis. PREREQUISITE(S): Graduate Standing.

#### **GSB 520 ANALYTICAL METHODS**

This course is designed to provide the student with more advanced methods in quantitative analysis. Topics covered include hypothesis testing, probability, correlation analysis and multiple regression. This course will be offered at least twice a year.

#### **GSB 540 GREAT IDEAS, BUSINESS AND SOCIETY (CROSS-LISTED AS MLS 452) (PREREQ: GRADUATE STANDING)**

An in-depth study, using primary sources of the basic ideas, aspirations, values-goods in the highest sense-which humanity strives to attain and which constitutes fundamental and challenging demands on the world of business and its managers and their policies and decision. (Cross-listed with MLS 452.) Offered variably.  
PREREQUISITE (S): Graduate Standing.

#### **GSB 599 STRATEGIC ANALYSIS FOR COMPETING GLOBALLY (SEE DESCRIPTION FOR PREREQUISITES)**

This capstone course views the impact of contemporary issues on corporate strategy. Competitive, cultural, social and ethical issues are examined within the context of a global business environment. The course content emphasizes identifying strategic alternatives, developing corporate and business strategies, and understanding the role of functional activities and organizational processes from a strategic viewpoint. The process of the course involves team interaction, problem-solving, group decision-making, written reports and oral presentations. PREREQUISITE (S): ACC 500, MGT 500, MGT 502, BLW 500, ECO 500, ECO 509, IB 500, ACC 555, ECO 555, FIN 555, MGT 555, MIS 555 & MKT 555.

#### **GSB 600 CANDIDACY CONTINUATION**

A non-credit registration that allows students to continue to use DePaul facilities such as the library, Career Development Center and the computer lab while not registered for credit-earning courses.

**GSB 611 RETURN DRIVEN STRATEGY (PRE-REQUISITES ACC 500, ACC 555, FIN 555 OR INSTRUCTOR CONSENT)**

This course provides frameworks that will enable Kellstadt students to make a significant impact on the future of their organizations. The seminar focuses on Return Driven Strategy including the 11 tenets of successful business strategy, leveraging genuine assets, significant forces of change and strategic valuation. This seminar will focus on a deep dive analysis of the strategies and successful value creation of great companies. Each student will participate in a team project to apply the strategy tenets of Return Driven Strategy to an organization. Participants will benefit from the study of CSFB HOLT performance and valuation models under special permission from Credit Suisse First Boston's equity Research Group. They will also gain special access to research in the field of business strategy and valuation. Finally, the seminar driven course will include an executive seminar co-sponsored with the Center for Corporate financial Leadership (CCFL) as part of the standard curriculum. This course is co-designed and co-taught by Dr. Keith Howe and Dr. Mark L. Frigo, and Joel Litman, Clinical Professor of Business Strategy at DePaul's Kellstadt Graduate School of Business and Director in Equity Research at Credit Suisse First Boston. Pre-requisites: ACC 500, ACC 555, FIN 555 or Instructor Consent.

**GSB 621 STRATEGY EXECUTION FRAMEWORKS (PRE-REQUISITES ACC 500, ACC 555, FIN 555 OR INSTRUCTOR CONSENT)**

Business execution frameworks, such as the Balanced Scorecard and Value Based Management (VBM) are used by companies to turn their strategic plans into action, And help ensure execution of intended activities. Confusion can exist between what Exactly constitutes the execution process and what makes up the strategic planning and strategy development processes. This course will provide MBA candidates with an understanding and working skill-set for linking strategy to execution. It will also enable students how to recognize flaws in corporate management systems in this area. Further, it will provide them with the background to evaluate the quality of their business execution systems, and identify opportunities for improvement. The course is linked tightly to Return Driven Strategy.

While there is not specific business execution system that can be recommended in every situation, two general schools of thought have emerged and will be highlighted, focusing on the main principles and examples:

" Balanced scorecard and the use of Strategy Maps

" Value-Based management, and the interrelationship of value drivers

Both financial and non-financial quantitative measures are examined in detail in actual organizations. Specific execution initiatives in popular use by organizations will also be studied including:

" Six Sigma, Lean Manufacturing, Total Quality Management (TQM)

The seminars and research projects focus on studying successful companies and how they execute on their business strategies. Further, a survey of companies that employ execution strategies without good business strategy, and the results, are also investigated. Each student will participate in team projects to understand these systems.

The Instructors:

This course is co-designed and co-taught by Dr. Mark L. Frigo, Eichenbaum Foundation Distinguished Professor of Strategy and Leadership, and Joel Litman, Clinical Professor of Business Strategy at DePaul's Kellstadt and director in Equity Research at Credit Suisse First Boston. They have been combining their efforts in the research, study, and development of business strategy models and frameworks for execution and value creation and have assisted a wide range of public and private companies in the application of these concepts.

**GSB 631 STRATEGIC FINANCIAL ANALYSIS (PRE-REQUISITES ACC 500, ACC 555, FIN 555 OR INSTRUCTOE CONSENT)**

This course is designed for all MBA students seeking to develop skills in strategic financial analysis. The course provides a deep, unabashed evaluation of corporate performance with a focus on traditional and cash-based measures, and strategic applications. Understanding the strengths and weaknesses of various types of financial analyses is a requirement for designing and developing business strategy, business execution systems, and understanding of the performance of the company.

Key managerial questions will be investigated in the course: When should a business grow? When is growth meaningless to investors? Why does an increase in net income, even over decades, still result in stock price drops? Why do companies report record Return On Equity amidst abysmal stock returns? Why and when is stock price BAD for Measuring managerial performance? Corporate managers today are plagued by these questions, leaving them to believe in market irrationality, or simply "the market doesn't understand my company".

The course will be driven by actual review and evaluation of company financial statements, using of several types of practical financial analysis methods and tools. The course provides deep insights into the world of investment analysis, corporate performance measurement, and strategic planning. This course will be useful for MBA candidates destined for higher levers of corporate management, management consulting, investment banking, equity research, or money management.

This seminar-driven course is co-designed and co-taught by Dr. Mark L. Frigo, Eichenbaum Foundation Distinguished Professor of Strategy and Leadership, Dr. Keith M. Howe, Scholl Professor of Finance, and Joel Litman, Executive in Residence in The Center for Strategy, Execution and Valuation in the Kellstadt Graduate School of Business and Vice-President in Equity Research at Credit Suisse First Boston.

Prerequisites: ACC 500, ACC 555, FIN 555 or instructor consent.

**GSB 640 PROBLEMS IN ETHICS: ISSUES IN BUSINESS (CROSS-LISTED AS PHL 640) (PREREQ: GRADUATE STANDING)**

A seminar in business ethics that centers on theoretical, practical and pedagogical issues. (Cross-listed with PHL 640) Offered variably. PREREQUISITE(S): Graduate Standing.

**GSB 641 STRATEGIC VALUATION (PRE-REQUISITES ACC 500, ACC 555, FIN 555 OR INSTRUCTOR CONSENT.**

This course surveys valuation methods, forecasting techniques, and practical methods for driving valuations from strategic corporate analysis. The course shows the link between strategic analysis and valuations - converting our qualitative understanding of company initiatives into quantitative forecasts and valuation models. The guiding principles for developing valuation models, and the tools and techniques for enhancing that analysis are introduced. This course builds a skillset for evaluating other valuation models and a first-hand experience in building models for various companies in differing settings. The course differs from traditional treatments in its focus on the actual building of valuation models directly from financial statements and the valuation projects based on real-time data. This course is co-designed and co-taught by Dr. Keith Howe and Dr. Mark L. Frigo, and Joel C. Litman, Clinical Professor of Business Strategy at DePaul's Kellstadt Graduate School of Business and Director in Equity Research at Credit Suisse First Boston. They have been combining their efforts in the research, study, and development of business strategy models and frameworks for execution and value-creation and have assisted a wide range of public and private companies in the application of these concepts. Prerequisites: ACC 500, ACC 555, FIN 555 or instructor consent.

**GSB 650 RELIGIOUS ETHICS AND ECONOMICS (CROSS-LISTED AS PHL 650 & MLS 442) (PREREQ: GRADUATE STANDING)**

This course will examine the thinking of social scientists, philosophers and theologians on the impact of religious values and institutions, on the origin and development of American capitalism and its relevance to contemporary business ethics. (Cross-listed with PHL 650 and MLS 442) Offered variably. PREREQUISITE(S): Graduate Standing.

**GSB 793 INTERNSHIP**

This is a unique opportunity in which knowledge gained in the classroom can be applied to an actual business environment. The intern will be immersed in a stimulating environment with a pool of established resources in industry or government. PREREQUISITE(S): Permission.

**GSB 798 SPECIAL TOPICS (PREREQ: AS INDICATED IN CLASS SCHEDULE)**

Content and format of this course is variable. An in-depth study of current issues. Subject matter will be indicated in class schedule. PREREQUISITE (S): As indicated in class schedule.

## **HUMAN COMPUTER INTERACTION**

**HCI 402 FOUNDATIONS OF DIGITAL DESIGN**

Shape, line on two-dimensional surfaces. Color. Composition rules as they apply to digitally created documents. Digital manipulation of two-dimensional images. Use of commercially available draw and paint tools to create two-dimensional designs.

**HCI 422 MULTIMEDIA**

Multimedia interface design. Underlying technological issues including synchronization and coordination of multiple media, file formats for images, animations, sound and text. Hypertext. Information organization. Survey of multimedia authoring software. Topics in long distance multimedia (World Wide Web). Students will critique existing applications and create several multimedia applications. PREREQUISITE(S): CSC 416 or HCI 440.

**HCI 423 INTERNET MULTIMEDIA**

(Cross-listed as ECT 423) Design and prototyping of multimedia applications for delivery via the Internet. Survey of low-bandwidth file formats for images, sound, and animation. Bandwidth reduction techniques and tools. Discussion of client side and server side allocation of responsibility. Authoring tools. Students will create and evaluate several small applications. PREREQUISITE(S): HCI 440 or ECT/HCI 441.

**HCI 430 PROTOTYPING AND IMPLEMENTATION**

Introduction to creating executable prototypes for interactive systems. Overview of modern user interface programming tools. The emphasis is on creating testable prototypes and evaluating them using technologies such as VB.NET and Access. Both stand-alone and Web-based applications are addressed. Students create a prototype for a predefined system, evaluate the prototype, redesign the system as necessary, and convert it to a final working system. Students prepare written documents describing their activities and present the final results to the class. PREREQUISITE(S): IT 236 and HCI 440.

**HCI 432 USER CENTERED INTERACTIVE WEB DEVELOPMENT**

Analysis, design, and development of interactive WWW sites. Evaluation of WWW interactions in terms of user-centered design and appropriateness of application. Use of commercially available development tools to exploit client-side technology. Production and preparation of multimedia elements for web distribution. PREREQUISITE(S): HCI 430 and HCI 440.

**HCI 440 USABILITY ENGINEERING**

The user-interface development process. Introduction to methods for practicing user-centered design including user and task analysis, user interface design principles and testing using low-fidelity prototypes. PREREQUISITE(S): IT 130 or Graduate Standing.

**HCI 445 ANALYSIS AND DESIGN FOR HCI**

This course provides students with the skills necessary to acquire and organize user information for the purpose of developing task and systems analyses. Topics covered include survey construction and administration, structured observation, interviewing, and participatory design. Students learn to evaluate and organize user information toward making analysis and design decisions. Human communication and presentation skills are developed. PREREQUISITE(S): IT 223

**HCI 450 FOUNDATIONS OF HUMAN-COMPUTER INTERACTION**

Application of engineering and psychological theory to the design of computer systems. Overview of applicable research methods. Sensation, cognition, decision making, display and control design. Overview of workspace design including biomechanics, work physiology, stress and workload. PREREQUISITE(S): IT 223.

**HCI 460 USABILITY EVALUATION METHODS**

Survey of evaluation methods that can be applied to user interfaces. Methods include expert inspections, walkthroughs, usability testing and analytical approaches. Students evaluate existing systems by applying some of these methods. PREREQUISITE(S): IT 223 and HCI 440.

**HCI 470 DIGITAL PAGE FORMATTING I**

Problem-based applications of perceptual and communication principles to the presentation of on-line and off-screen pages. Includes experience with industry standard vector, raster and formatting software. PREREQUISITE(S): HCI 402, ART 105, or equivalent.

**HCI 471 DIGITAL PAGE FORMATTING II**

Client-based applications for formatting in multi-page screen environments. Includes experience with industry standard multi-media software. PREREQUISITE(S): HCI 470.

**HCI 511 DESIGNING FOR DISABILITIES**

Designing computer-based solutions for problems faced by people with disabilities. Designing for both physical and cognitive disabilities. Solutions include text enlargement, enhanced audio, custom presentation of information, and unique input devices. PREREQUISITE(S): HCI 440 and HCI 460.

**HCI 512 DESIGNING FOR VISUALIZATION**

Sources of graphical integrity and sophistication. Data-Ink maximization. Data density. Color and information. Effective use of space and time. PREREQUISITE(S): HCI 440 and HCI 460.

### **HCI 513 DESIGN/STRATEGIES FOR INTERNET COMMERCE**

(Cross-listed with ECT 555) An integrated study of design, technical, and strategic issues for Internet commerce. Web analysis, design and publishing. Visual, textual and content organization, response time, usability testing. Authorizing tools and administering web server. Internet database servicing. Internet service providers and pricing. Digital cash and encryption. Impact on the value chain, intermediation, and market structure. Strategies for mass customization, interactive marketing, and support for collaborative work. PREREQUISITE(S): ECT 353 and IS 422, or HCI 430, or advanced standing in another program.

### **HCI 530 USABILITY ISSUES FOR HANDHELD DEVICES**

This seminar will cover the theoretical and practical issues of usability for handheld devices (cell phones and PDAs). Students will analyze how restricted displays and input modalities constrain applications on these platforms, and how these constraints factor into the design process. PREREQUISITE(S): HCI 440 and HCI 430 or CSC 418.

### **HCI 540 USER INTERFACE IMPLEMENTATION I**

Converting prototypes into running systems. The focus is on using a User Interface Management System, learning the underlying programming language, and the underlying programming environment. Students work on a project that requires pushing the UIMS beyond its normal limits. TAE+, Galaxy, DevGuide, C, C++, Tcl/tk. Students present their final results to the class. PREREQUISITE(S): CSC 418 or HCI 430.

### **HCI 560 INFORMATION TECHNOLOGY TRAINING AND USER SUPPORT (PREREQUISITE: HCI 440 AND HCI 460)**

Cross-listed with ITS 560. Designing and delivering information technology training in the workplace, both instructor-led and computer-based. Theories of adult learning. Preparing, presenting, and evaluating courses. Training management systems. Performance support systems and job aids. PREREQUISITE(S): HCI 440 and HCI 460.

### **HCI 590 TOPICS IN HUMAN-COMPUTER INTERACTION**

This is an independent study course. PREREQUISITE(S): Completion of the HCI core courses or consent of the instructor. May be repeated for credit.

### **HCI 594 HUMAN-COMPUTER INTERACTION CAPSTONE**

HCI 594 provides an opportunity for students to apply all of the skills they have learned on one comprehensive project. Multidisciplinary teams design, evaluate, and implement a user interface intensive project. Students prepare written documents describing their activities and present the final results to the class. PREREQUISITE(S): Completion of the HCI core courses or consent of the instructor.

### **HCI 690 RESEARCH SEMINAR**

PREREQUISITE(S): Instructor consent.

## **HUMAN DEVELOPMENT AND LEARNING**

### **HDL 500 INTEGRATIVE SEMINAR**

(0 credit) This seminar provides students with the opportunity to explore the subjective experiences of teaching and learning. Modeled after Donald Schon's "reflective practice" approach, participants experience, through personal reflection, how deeply involved

they are in the learning situation they seek to understand and influence. It is through reflecting on the nature of the experiences that the participants begin to explore how school experience is formed and shaped.

#### **HDL 501 INVESTIGATIONS IN HUMAN DEVELOPMENT AND LEARNING**

Each student's own place of work constitutes the primary context of these investigation studies. Through such means as personal observation and examined experience, each student will complete a project which examines the interaction between human development and cultural contexts, with implications for learning and being an educational leader.

#### **HDL 502 INDEPENDENT STUDY IN HUMAN DEVELOPMENT AND LEARNING (PREREQ.: PERMISSION)**

PREREQUISITE(S): Permission of the instructor.

#### **HDL 510 PERSONALITY DEVELOPMENT AND DIFFERENCE**

This class examines the course of personality development from infancy through the ages, drawing upon contemporary psychoanalytic formulations, developmental research findings, and cultural studies, as lenses through which to view behavior and understand meaning. For education, the course emphasizes facilitating the emerging of a sense of self that is vital and effective, and flexible in interpreting experiences of self and difference in the world.

#### **HDL 520 LIFE COURSE PERSONALITY DEVELOPMENT**

This class examines the course of personality development from infancy through older adulthood, drawing upon contemporary psychoanalytic formulations and findings of developmental research as lenses through which to view behavior, understand developmental processes, and as perspectives applicable to the process of education. A portion of the class is reserved for seminar participants to examine human development based on case studies of personal observations and experiences.

#### **HDL 530 THE LEARNING PROCESS: PSYCHOLOGICAL AND NEUROLOGICAL ISSUES**

The major forms of learning difficulties encountered among children are addressed, including those resulting from social, emotional, neurological or cognitive factors. Implications for educational planning is emphasized.

#### **HDL 540 SUBJECTIVITY AND LEARNING**

This course focuses on understanding the subjective aspects of experience and the impact on learning. Issues related to emotional, social and behavioral functioning will be addressed as they relate to cognition, curriculum, climate, and relationships. Psychoanalytic theories and techniques will provide a foundation for this process. Implications for the child, family, teacher and principal will be considered.

#### **HDL 550 THE FAMILY AND LIFE COURSE DEVELOPMENT**

This seminar provides an introduction to the study of the family as a social system and the processes through which families influence behavior. Students focus on developing skills in understanding patterns of interaction and in identifying ethnic, cultural and other unique sources of variation.

#### **HDL 560 DYNAMICS OF GROUPS AND ORGANIZATIONS**

This course examines the psychosocial dynamics of behavior in groups and the impact on the development of organizations. Principles of children and adult groups within diverse contexts are examined with implications for learning and leading. Attention is also given to the development of skills associated with understanding group processes

within educational contexts, complete with the influence of individuals on group processes, and the influence of group membership on individual behavior.

**HDL 599 THESIS RESEARCH IN HUMAN DEVELOPMENT AND LEARNING (PREREQ.: SCG 410/APPROVAL)**

A student writing a thesis registers for this course for four quarter hours of credit. Where the thesis research and the writing of the thesis itself are prolonged beyond the usual time, the program advisor may require the student to register for additional credit. PREREQUISITE(S): SCG 410 and approved thesis proposal.

**HDL 600 REGISTERED STUDENT IN GOOD STANDING**

(0 credit) This registration is required of all students who are not enrolled in a course but are completing course requirements and/or research. It provides access to University facilities. \$50 fee per quarter.

**HDL 601 PRACTICUM IN HUMAN DEVELOPMENT AND LEARNING (PERMISSION REQUIRED)**

This practicum provides opportunities for students to experience the range of issues related to human development and learning in a different context. PREREQUISITE(S): Permission of the instructor.

**HDL 606 REVIEW OF LITERATURE**

(0 credit) This paper will give students the opportunity to develop and demonstrate written competence in a subfield of their discipline and to enhance life-long learning. Specifically, they will broaden their knowledge base and inform themselves about a topic, issue, theory, etc., reviewing and synthesizing existing literature. To do so, students will need a variety of bibliographic skills including searching data bases.

**HDL 607 INTEGRATIVE PAPER**

(0 credit) Students will observe and/or participate in the reciprocal interaction of theory and practice, by investigating actual practice in the field as it related to theory. This might take the form of investigating how a particular theory is applied in the field, developing a practical application of theory or conversely, developing/refining a theory based on investigations made in the field.

## **HUMAN SERVICES AND COUNSELING**

**HSC 400 TECHNOLOGY IN COUNSELING (PREREQUISITE IS NEW STUDENT ORIENTATION)**

This course will introduce students to technology used in counseling. Focus will be on the use and selection of appropriate software and electronic resources for counseling. Attention will be paid to evaluative criteria to assess utility. (prerequisite New Student Orientation)

**HSC 404 CHILD GROWTH AND DEVELOPMENT: THE EARLY YEARS**

Students will examine theories and research related to the physical, emotional, social, cognitive and spiritual development of young children from conception to age eight with emphasis placed on the first three years of life. Within a multicultural perspective, students will develop skills and understandings that will help them delineate supports and challenges for healthy child growth and development within the social context of the families and communities in which young children live.

#### **HSC 405 LIFE SPAN: ADOLESCENTS THROUGH THE AGING YEARS**

This course focuses on the dynamics of adolescent and adult growth and development from spiritual, biosocial and psychological perspectives. It will provide basic processes for intergenerational programming in early childhood education. It focuses on community referral skills for those persons proceeding toward aging as well as the identification of developmental needs with adolescents and adults. Emphasis is placed on attitudes of adolescents to aging as well as the identification of developmental needs throughout this time of the life cycle. Attention is paid to specific developmental counseling skills needed to meet these needs.

#### **HSC 406 CHARACTERISTICS OF THE HIGH-RISK YOUNG CHILD**

Students will examine the predictors and consequences of developmental risk in early childhood and contrast the concept of risk with the status of developmental delay or disability. The distinctions among established risk, biological risk or medical risk, environmental risk, and the cumulative effect of multiple risk factors will be illustrated. An ecological approach to describing developmental risk and options for intervention and/or education will be introduced and practiced. Specific areas of environmental risk will be examined in detail, with consideration of the impact on the young child's development. These will include the effects of poverty, chronic illness, adolescent parenting, child abuse, parental mental illness and/or substance abuse and siblings with disabled or chronically ill child.

#### **HSC 407 HISTORY AND PHILOSOPHY OF EARLY INTERVENTION PROGRAMS**

Students will trace the evolution of early intervention programs through historical and philosophical writings. Content included will be descriptions of theoretical models that form the basis of early intervention practices today. Central early intervention issues such as ethics, parent partnerships, service delivery options, transdisciplinary team functions, multicultural factors and social policy will be emphasized.

#### **HSC 408 EARLY INTERVENTION STRATEGIES AND RELATIONSHIPS**

This course will focus on the normal development from conception through infancy to age five years. Emphasis will be placed on the biological and environmental factors that may place children at-risk, physiologically, emotionally, intellectually or socially at different stages of their development. Attention will be given to the importance and mutuality of the relationship between the infant and the primary caregiver. Issues related to the infant's temperament and parent's response to infants with special needs will be addressed. The implications for center and home based early intervention programs, including early intervention strategies and techniques, will be discussed.

#### **HSC 409 CHILD, FAMILY AND MULTICULTURAL COMMUNITY (COREQUISITE(S) T&L 401 FOR ECE AND T&L STUDENTS)**

This course focuses on the development of the child from infancy through early childhood, within the context of the particular family and culture in which the child is being raised. Social systems, psychodynamic and developmental theories will be utilized in this courses. Emphasis will be placed on the unique role the varying family structures, cultural norms and community environments can play in the growth and development of the child. Particular attention will be paid to the challenges faced by teachers and other professionals in early intervention in assessing children's need and providing services which are reflective of the child's development within his/her cultural nad community context. Emphasis will be on building those family, institutional and community partnerships what will support the healthy growth and development of young children, in the IFSP planning process. COREQUISITE(S): T&L 401 for ECE and T&L students.

### **HSC 410 ADMINISTRATION/SUPERVISION OF HUMAN SERVICES AND COUNSELING PROGRAMS**

This course focuses on issues of administration and supervision in agency, public and private schools and other settings for families of infants, toddlers and young children with special needs. Particular attention will be given to transdisciplinary team membership, team development, clinical supervision models, parent partnerships and differentiated staffing issues. Management processes such as procedures for decision making, resource management, space, licensing and accreditation will be incorporated. Concern for child advocacy processes in administration will be included.

### **HSC 440 FAMILY AND CHILD ASSESSMENT TECHNIQUES**

Students will participate in the study, use and evaluation of early childhood assessment, methods and tools that are appropriate for young children of different ages from culturally and socio-economically diverse backgrounds. Ways of involving parents in early childhood assessment will be stressed, particularly in video-conferencing parents and their developmental parenting skills with their children, case histories, case conferences and home visits. How to observe and assess children individually, in groups and in their family systems will be included. Clarification of roles on a transdisciplinary team assessing the child will be made. Emphasis on assessment of play-based techniques will be included. Networking with community services after assessment will be explored. (This course is taught on site at Maryville, working directly with children.)

### **HSC 451 LEGAL AND ETHICAL ISSUES IN COUNSELING**

Professional counseling involves an interplay of ethics, personal values and legal implications of practice. This course initially attempts to focus on personal values and allows for the student to reflect upon his/her personal value systems. Several ethical codes related to the profession are studied so that the students will have the knowledge of professional ethical practice. An examination of local and federal laws regarding the interplay of these three components will be examined. The students, in the course, will engage in small groups, value clarification exercises, role-playing with lectures, video technology and guest speakers.

### **HSC 452 INTRODUCTION TO THE COUNSELING PROFESSION**

Upon completion of this course each student will be able to: 1) analyze human service organizations in terms of their mission, vision, beliefs, current goals and strategies, organizational culture, organizational structures and leadership; 2) utilize visionary, strategic and operational planning processes to develop and organize a human services organization; 3) design various assessments of service outcomes of human services organizations; and 4) judge his or her effectiveness as a member of both a learning community and planning team.

### **HSC 453 HISTORICAL AND DIVERSE SOCIAL FRAMEWORKS IN HUMAN SERVICES AND COUNSELING**

Upon completion of this course each student will be able to: 1) develop an expanded/transformed vision of himself or herself as both a person and as a human services professional from that which she or he had at the beginning of the course; 2) relate his or her personal and professional development to popular theories of life and career development; 3) evaluate his or her performance in a life and career counseling experience both as a client and as a counselor; 4) establish both a professional network of colleagues and a professional library of human services information which will be of use in future human services work; and 5) understanding of ethics in counseling profession.

**HSC 454 CAREER COUNSELING**

Ways to assist the individual to choose, prepare for and progress in a career. Vocational testing, sources for occupational information are described. Computer guidance programs designed for career exploration will be studied. Also, the study of vocational behavior in relation to career patterns with special attention to the analysis of empirical data and theories pertaining to vocational choice will be considered.

**HSC 455 THE ADMINISTRATION OF HUMAN SERVICES AND COUNSELING PROGRAMS**

The administration of human services programs, an interdisciplinary approach to meeting needs, describes how administrators and counselors can develop skills and competencies to employ, assign and supervise their staff. An analysis of various supervisory techniques is made.

**HSC 456 COUNSELING THE COLLEGE-BOUND STUDENT**

Designed to assist professionals in the human services and counseling areas in formulating a deeper perspective of the college counseling process. The use of profile types of colleges and admission procedures, testing, scholarships, advance placement, the preparing of the school report and many other items will be included in the instruction. The workshop approach will be used in the final two weeks of the course to put into practice concepts, skills and techniques learned earlier.

**HSC 457 SEMINAR: IMPROVING PARENT-CHILD RELATIONSHIPS****HSC 458 GROUP COUNSELING**

Study and ethics of group process, group theories, problems such as conflict resolution, leadership and membership styles re-examined. The class engages in a regular group experience. Opportunity to observe and participate in group work is provided. Criteria and formulation for conducting workshops with group process is considered.

**HSC 459 CLINICAL STUDIES IN HUMAN SERVICES AND COUNSELING (PREREQUISITE(S): HSC 459)**

The purpose of this course is to provide students with opportunities to 1) develop and refine counseling skills; 2) to study the format of case studies; 3) conduct individual assessments under supervision; 4) familiarize themselves with Human Service agencies in the Chicago area. Through the use of videotapes, role playing and other techniques, student will be given direct feedback as to their performance of counseling skills. The course requires extensive field work. PREREQUISITE(S): HSC 467 and advanced standing in the program (completion of 6 or more courses in the HSC program).

**HSC 460 GUIDANCE IN THE ELEMENTARY SCHOOL**

Guidance in the Elementary School. A study of the philosophy, concepts and rationale which undergird elementary school guidance. Principles and practices as they relate to the guidance program are presented. The student is acquainted with the role of the counselor and is introduced to the various facets of the elementary school program. Attention is given to the development of guidance techniques in the classroom and group guidance.

**HSC 461 TESTING AND APPRAISAL**

Detailed analysis of intelligence, aptitude, personality, and achievement tests used with groups and individuals. The course is intended to familiarize students with various appraisal procedures and their utilization. Attention is given to the development of the institutional testing program.

### **HSC 462 COUNSELING THEORY AND PRACTICE FOR HUMAN SERVICES**

### **HSC 463 TECHNIQUES OF HUMAN SERVICES AND COUNSELING IN ELEMENTARY/MIDDLE SCHOOL**

A study of the philosophy, concepts and rationale which undergird elementary school guidance is known by the student. Principles and practice as they relate to the guidance program are presented. The student is acquainted with the role of the counselor and is introduced to the various facets of elementary school program including family partnerships, violence prevention, grief counseling and career guidance. Attention is given to the development of guidance techniques in child and art therapy, groups, and classroom.

### **HSC 464 CONSULTING IN HUMAN SERVICES**

Various models of consultation will be explored in Human Services. Use of case studies, role-playing, visits to human service agencies using the consultation process to observe the consultant's role will be included. Stress on the facilitation of communication and dynamics in interpersonal relationships will be emphasized.

### **HSC 465 PRINCIPLES AND PRACTICES OF HIGHER EDUCATION PERSONNEL**

This course will include an overview of principles and practices of higher education personnel work, with an emphasis on management theories and strategies. Selected topics, issues and services will be presented by professionals in higher education. This course will also be concerned about international and multicultural student issues.

### **HSC 466 ASSESSMENT AND TREATMENT OF CHEMICAL DEPENDENCY**

This course seeks to develop skills and understandings relevant to the assessment and treatment of chemical dependency. The major alternative assessment approaches and treatment interventions for chemical dependency are surveyed and analyzed.

### **HSC 467 COUNSELING THEORIES**

The purpose of this course is to review counseling theories from affective, non-directive approaches to cognitive and behavioral approaches. The humanistic and existential frameworks in counseling will be reviewed. Techniques and process derived from these various counseling frameworks will be used in classroom laboratory experiences with use of follow-up videotaping assignments. Models of normalcy as well as knowledge and use of the DSM IV-R (2000) and review of psychopathology, highlighting neurotic personality disorders will be considered. In counseling children, play and art therapy processes will be applied.

### **HSC 468 CURRENT ISSUES IN HUMAN SERVICES**

Topics related to early childhood intervention and family issues, such as bonding and attachment, child abuse, neglect, incest, parents' needs and infants, prenatally-exposed children-at-risk, fathers and babies, as well as other current topics will be presented in a high involvement and in-depth seminar format, including outside speakers and tours. Each seminar will include assigned readings, paper and opportunities for students to link their conceptual understanding to practical experience. Four seminars will be required to fulfill course requirements.

### **HSC 480 INTRODUCTION TO HEALTHY AGING FRAMEWORKS**

### **HSC 481 ASSESSMENT AND COUNSELING TO HEALTHY AGING AND FAMILIES**

Assessment and Counseling to Healthy Aging and Families. This course will provide an overview of counseling skills, group processes and family therapy skills that will facilitate healthy aging persons and their families with intergenerational























































































































































































































































































